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ABSTRACT

The issue of underemployment (a condition characterized by inadequate hours, inadequate income, and/or inadequate use of skills) is explored in this monograph. The methodology and vocabulary of underemployment are first examined, including a definition synthesis of hours worked, skill utilization, and compensation. The second section provides statistical measures of the incidence of underemployment for the following categories: part-time underemployed, and populations at risk--farmworkers, women, youth, minorities, and college graduates. Among the causes of underemployment described in the third section are the effects of automation, trade deficits and increasing foreign competition, high military spending, reduced Federal spending for retraining and enforcement of equal rights, increased employment of women, and declining union membership. Suggestions for career assistance specific to each type of underemployment are made. For those employed below skill level, recommendations are made for improved labor market information and public employment services, and changes in the relationship of schooling and work. The part-time underemployed could benefit from national commitment to full employment, changes in work attitudes, job search skill training, and job creation. Employability programs and comparable worth legislation are suggested to aid the low-income underemployed. Finally, from two scenarios about the future of work the author draws implications for underemployment and predicts future directions for skill utilization and pay equity. A summary of positive and negative trends leads to a conclusion of guarded optimism that the problems of underemployment are solvable. (SK)

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Information Series No. 303

UNDEREMPLOYMENT FROM A HUMAN SERVICE PERSPECTIVE

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FOREWORD

The Educational Resources Information Center Clearinghouse on Adult, Career, and Vocational Education (ERIC/ACVE) is one of 16 clearinghouses in a nationwide information system that is funded by the National Institute of Education. One of the functions of the Clearinghouse is to interpret the literature that is entered into the ERIC database. This paper is of particular interest to vocational education personnel; career counselors in secondary and higher education; employment and training professionals in Job Training Partnership Act, vocational rehabilitation, and veterans programs; human resource planners, administrators, and practitioners in industry and government; and other human service providers who work with underemployed groups such as minorities, women, youth, and farm workers.

The profession is indebted to David P. Meyer of Oakland University for his scholarship in the preparation of this manuscript. Dr. Meyer is Associate Professor of Education in Human Resource Development and has served as chair of the Human Resource Development area. Previously, he worked for the Arizona Economic Security Commission and the Region IX Office, Employment and Training Administration, U.S. Department of Labor. He has served as the editor of the *Journal of Employment Counseling* and currently edits the newsletter of the National Employment Counselor Association. Dr. Meyer has developed a number of publications related to employment counseling and is currently working on a monograph entitled "Non-cognitive Aspects of Career Decisions."

The profession is also indebted to Howard Figler, Director of the Career Center, University of Texas at Austin; Jeanne Gordus, Research Scientist, Institute of Science and Technology, University of Michigan; and Larry Hotchkiss, Research Specialist, and Louise Vetter, Senior Research Specialist, the National Center for Research in Vocational Education, for their critical review of the manuscript prior to its final revision and publication. Susan Imel, Assistant Director of the ERIC Clearinghouse on Adult, Career, and Vocational Education, coordinated the publication's development with the assistance of Sandra Kerka. Jean Messick and Brenda Hemming typed the manuscript, and Ms. Hemming and Janet Ray served as word processor operators. Editing was performed by Shawn Summers of the National Center's Editorial Services.

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EXECUTIVE SUMMARY

Underemployment is a developing socioeconomic problem. Although unemployment is a familiar concept, underemployment is a term that is not understood by the public, and its incidence is rarely reported in the media. This paper examines underemployment from a human service perspective. Its purpose is to:

- Create an awareness of underemployment
- Contribute to the development and standardization of the vocabulary of underemployment
- Review the diverse literature related to the incidence and causes of underemployment
- Examine the systematic contributors to underemployment
- Suggest directions for remediating underemployment
- Recommend potential program services and approaches for use with underemployed workers
- Predict future labor market directions concerning underemployment.

In developing a definition of underemployment, three essential elements are considered: hours worked, skill utilization, and compensation. Anyone willing, available, and able to work full time who is working less than 35 hours per week may be considered underemployed. Likewise, workers who are employed at jobs below their skill levels are considered underemployed. Compensation is a factor in underemployment when a full-time worker receives inadequate pay either below the subsistence level, or less than the norm for that occupation, or less than other occupations requiring equivalent skills. Underemployment, then, results from one or more of these elements.

In enumerating the incidence of underemployment, three types of underemployment are examined: part-time, below skill, and low compensation underemployment. Part-time underemployment is rising, but this increase may be a long-term trend or merely a reflection of the overall higher unemployment rate of the early 1980s. Below skill-level underemployment is measured by both subjective measures ("I consider myself underemployed") and objective ones (discrepancies between actual educational level and that required by the job). Because of rising levels of education and changes in technology resulting in deskilling of work, below skill-level underemployment is also increasing. Low compensation underemployment is difficult to verify because it involves decisions about the numbers of full-time workers who earn less than the poverty level or which occupational groups received less compensation than others doing similar work. Nevertheless, there are indications that both kinds of low compensation underemployment are widespread. For example, the actual number of working poor increased by a third from 1975 to 1982. Currently, about 1.7 million Americans work full time but earn less than the poverty level. Also, although the

American labor force has been growing steadily over the past 20 years, most of that growth has occurred in the relatively low wage service and trade sector. And, 11 of the 15 occupations with the highest projected employment increases are predominately female occupations such as secretaries, nurses, and sales clerks.

Underemployment is not equally distributed among Americans. The following groups are more likely to experience underemployment:

- **Farm Workers.** In measures of low wage and part-time underemployment, farm workers are probably the most underemployed workers in the United States.
- **Women.** Next to farm workers, women experience the most serious low earnings underemployment. Women are also subject to part-time and below skill utilization underemployment.
- **Youth.** The wages of young workers are low (signaling low earnings underemployment) and the incidence of involuntary part-time work is high (signaling part-time underemployment).
- **Minorities.** The underemployment of minorities—blacks, Hispanics, and native Americans—is greater and more widely known than that of the rest of the population. There are significant differences among these three groups in types of underemployment experiences.
- **College Graduates.** Although college graduates are generally an economically favored group, they are more at risk for below skill utilization underemployment than the general population. This fact is especially distressing because college attendance doubled between 1965 and 1983, and the nation's investment in higher education is increasing.

Factors that decrease the availability and level of work contribute to underemployment. Prominent factors that point to underemployment as a continuing problem include the following:

- Deskilling effects of automation
- Trade deficits and increasing foreign competition
- High military spending and diversion of research and development efforts to military projects
- Reduced Federal spending for retraining and upgrading of workers
- Reduced Federal leadership and enforcement in equal rights areas
- Increased participation of women in the labor force
- Declining union membership and increasing economic leverage of multinational corporations over workers.

To alleviate the problem of underemployment, initiatives for underemployed individuals should be undertaken both at the policy and service level.

Career assistance may help those who are underemployed. Because of the variety of underemployment, however, each type calls for its own special solutions. Below skill-level underemployment could be reduced if better labor market information and projections were available. Also, public employment offices could strengthen their counseling and career assistance services for the underemployed. Techniques that have been developed to assist the unemployed, including job search skill training and job development, can be used to address part-time underemployment. Career assistance for the low wage underemployed is somewhat more complex. Existing secondary and postsecondary vocational and adult education programs could be used to train or retrain individuals for new occupations. However, low wage underemployment needs to be addressed at the policy level through national and local laws to protect low-wage workers, specially targeted employability programs, and "comparable worth" legislation.

Few career development programs have been designed to address the needs of the underemployed. One model that has been used with underemployed workers has emerged from union-negotiated training programs. An example of this type of program is one that is offered by the Ford Motor Company in conjunction with the United Auto Workers (UAW). Operating in the Detroit metropolitan area, this program offers a wide variety of life/career development services to current and laid-off Ford employees. The services for active employees include an education and training assistance plan; a life and educational planning program; a basic skills enhancement program; a college and university option program; a targeted education, training, or counseling program; and a retirement planning program. Laid-off employees receive the following career services: a National vocational retraining assistance plan, targeted vocational retraining projects, vocational plans and interest surveys, career day conferences, career counseling and guidance, job search skills training, basic skills enhancement, and relocation assistance. An example of a comprehensive and sophisticated program that is currently being applied to a mixed group of employed, underemployed, and unemployed persons is the UAW-Ford program. It is a promising development in union-management-government collaboration.

If extrapolated into the future, a number of existing dynamics—trade deficits, deskilling of work, and rising educational levels—could produce more dysfunction in the labor force such as unemployment, low wages, and short hours. However, a number of favorable factors are operating and should operate to relieve underemployment. These include the following:

- Demographic changes that will mean fewer individuals entering the work force, thus reducing below skill utilization underemployment
- A leveling off of the number of women entering the work force
- Changes in technology resulting in new markets, industries, and jobs rather than in job elimination
- A narrowing of wage gaps experienced by minorities and women
- A continuing stable U.S. economy with a moderate inflation rate, lower interest rates, stable unemployment, and an improved import-export picture

Despite these optimistic signs, some trends may continue to prove troublesome:

- Declining union membership
- Decreases in government spending

- Trade deficits
- Immigration

The future underemployment picture will depend upon which trends prevail.

Information on underemployment may be found in the ERIC system under the following descriptors: Access to Education; Agricultural Laborers; Automation; *Career Development; College Graduates; Comparable Worth; *Compensation (Remuneration); Economic Change; Education Work Relationship; *Employment Level; *Employment Patterns; *Employment Services; Employment Statistics; Futures (of Society); Job Development; Job Search Methods; Job Skills; Labor Utilization; Low Income; Minority Groups; Part Time Employment; *Underemployment; Unemployment; Women; Work Attitudes; Working Hours; Youth. Asterisks indicate descriptors having particular relevance.

METHODOLOGY AND VOCABULARY

> Q. How many people work in the Vatican?
> A. About half. Attributed to Pope John XXIII (Jones 1982, p. 80)

Scope and Purpose

This monograph explores several aspects of dysfunction among the employed; the generic term that will be used is underemployment. This term is used to signify various problems based on failure to use human resources fully or failure to compensate human resources adequately. The one wastes a most precious resource—human talent—in a technological, information-based society; the other compounds the problem of an economic underclass, leading to worker discontent and social unrest.

The intended audience for this monograph includes: human resources planners, administrators, and practitioners in industry and government; vocational education specialists; career counselors in secondary and higher education; employment and training professionals in Job Training Partnership Act, vocational rehabilitation, and veterans programs; and other human service providers to groups among whom underemployment difficulties are endemic such as minorities, women, youth, and farm workers.

What follows is not intended to be an explanation of how to assist the underemployed at the service delivery level, although a number of recommendations will be made. (Almost no programs have been developed for the specific purpose of assisting the underemployed, except for agricultural workers; however, a huge literature base of career development techniques for youth, displaced homemakers, the handicapped, minorities, ex-offenders, plant closing victims, and other groups may be applicable to certain underemployed workers.) Rather, this paper strives to accomplish the following:

- Create awareness of a developing and somewhat neglected socioeconomic problem.
- Contribute to the development and standardization of terminology with respect to the problem of underemployment.
- Unify a diverse literature concerning the incidence and causes of underemployment.
- Examine the systemic contributors to the problem, as opposed to focusing on the characteristics of its victims.
- Suggest directions for remediation at the macro level—getting at the roots of the problems.
- Recommend potential program services and approaches that, from experience with the unemployed, seem suitable for the underemployed.

- Predict future directions in the labor market concerning skill utilization and pay equity.

Terminology and Methods

We are all familiar with the unemployment rate. It is considered a major indicator of the Nation's economic health. Once a month, television news anchors report: "The unemployment rate announced today by the U.S. Department of Labor held steady at 7.5 percent." Or "went up" or "declined," causing alarm or relief in turn.

Underemployment, on the other hand, is a term that is not fully understood by the public and rarely reported in the media. Despite this, the word conjures up images of workers employed in jobs below their capacity, earning low wages, working short hours, or some combination of the three. These images foreshadow the essential factors in the condition of underemployment.

Underemployment: Toward a Definition

Consider these fairly common situations in the American workplace.

- Marie Kristoff is employed as a teller for a banking chain. She likes her work, receives pay comparable to most tellers, and works full time. She is working toward a bachelor's degree in urban planning. Is she underemployed? Yes, because her occupation pays less than others of comparable skill and responsibility. She is sensibly planning to enter a better paying field.

- Jack Milgram works 16 hours a week as a research assistant in a laboratory engaged in cancer research. He likes his job and needs the freedom it offers him to pursue his doctorate in biochemistry. Is Jack underemployed? No, but he would be if he were available for a full-time job and wanted one but could only find part-time work.

- Linda Hollister is a secretary for the counselor education program at an urban university. She enjoys her work and the contact it affords her with counseling professionals. However, she would like a job as a counselor in a family service agency since she has just completed a master's degree in counseling. Is Linda underemployed? Yes, she's working below her skill level and desired occupation.

- Toby Fanfani has a degree in accounting and works full time supervising the accounting division of a medium-sized manufacturing firm. Lately, he has been experiencing great difficulty meeting the demands of his job. The pressures are so great that he has suffered from gastrointestinal problems, insomnia, and extreme anxiety. He has missed work often and performs indifferently when at work. Is Toby underemployed? No, Toby is experiencing burnout and may be considered overemployed.

- Janet Boglarski is a middle manager in a computer services firm. She has a degree in business administration with a strong background in computer science, including 8 years of increasingly responsible experience. She just discovered that she earns about half of what her male counterparts with comparable education and experience in the corporation earn. Is Janet underemployed? Yes, though her talents are being utilized, she is being unfairly compensated relative to others doing the same job.

The approach to underemployment is based on the concepts of Teresa Sullivan (1978) and C.C. Clogg (1979). Clogg devised two major categories of underemployment:

1. Visible, or a statistical concept directly measurable by labor force surveys that reflects insufficiency in *volume* of employment. It occurs when a worker is employed part time and is seeking or would accept additional work. Our term is "part-time underemployment."

2. Invisible, or an analytical concept reflecting a misallocation of labor resources and a fundamental imbalance between labor and other sources of production. The characteristic symptoms are low income, underutilization of skills, or low productivity.

Clogg used two terms to describe visible underemployment: sub-employment (off and on, seasonal) and part-time employment. Clogg also described two kinds of invisible underemployment: low income and mismatch.

Sullivan's approach to underemployment is that of labor underutilization with three possibilities: inadequate income, inadequate hours, and inadequate use of skills. This schema is used in this paper. Note that underemployment and unemployment are mutually exclusive, but that forms of underemployment are not. One may be underpaid, working part time, and not using one's full skills all at once. The definition of inadequate income used by Sullivan is income below subsistence level, poverty levels as defined by the U.S. Bureau of Labor Statistics. Sullivan's study included those who are unfairly compensated when compared with others holding comparable jobs. Adding this category extends underemployment to a much greater proportion of the labor force, but fits Sullivan's concept of underutilization. It is consistent with the belief that "the market" is only somewhat responsible for unequal wage rates, and that bias, restricted worker mobility, and unexamined relationships between wages and (marginal) productive contributions are responsible for much wage disparity. This is perhaps the difference between an economic and a psychological world view. The former sees the labor market as responding impartially to such impersonal factors as productivity and supply and demand. The latter sees the labor arena, in some measure at least, reflecting the culture with its biases, inequities, and values. In a culture that historically has devalued women, minorities, the young, and the old, it should come as no surprise that these groups suffer, among other indignities, underemployment.

Aspiration Discrepancy

The discrepancy between one's occupational aspiration and attainment is excluded from consideration in this study. While a small discrepancy might be the normal, healthy state of affairs, a large discrepancy between the desired and attained occupation is likely to cause career adjustment problems. Much research has been done on occupational aspiration and its correlates, including family variables, social class, race, education, and intelligence (Boyd 1952; Bradley 1943; Chapman and Volkeman 1959; Haller and Miller 1961; Tyler and Sundberg 1964). Thus, worker dissatisfaction is not a criterion for underemployment, though it usually accompanies the condition.

Underutilization of Potential

The assessment of potential is difficult in individual cases, impossible en masse. There is no way of knowing or even reasonably estimating what entire categories of workers may be capable of learning. Therefore, those who may be underemployed with respect to their potential are

excluded as well. This paper attempts to deal with actual and quantifiable terms: workers capable of producing 1 X goods or services can only find jobs at which they produce .85 X goods or services or workers whose jobs are evaluated at or above skill levels of other workers, yet are paid 70 percent of the wages of the others. These are, at least conceptually, quantifiable differences, whatever the practical difficulties in real world measurement.

Definition Synthesis

The essential elements for determining underemployment in this study are the number of hours worked, skill utilization, and compensation.

Hours Worked

Anyone willing, available, and able to work full time who is working significantly less than full time may be considered underemployed. It is fair to consider "significantly less" to be 15 percent less than full time (this figure is in fact the U.S. Bureau of Labor Statistics' criterion for part time). Thus, a worker working less than 35 hours per week, where 40 is the norm, would be underemployed from the standpoint of hours less than full time. Clearly excluded from this group are those individuals who choose part-time employment. It should be noted that the proportion of part-time workers is growing rapidly—from 1 in 10 in the early 1960s, to 1 in 8 in 1970, to 1 in 5 at the end of the 1970s (Meier 1979).

Skill Utilization

The notion of skill utilization has historical and legal precedents. When the Manpower Development and Training Act (MDTA) was enacted, it specified employability services for persons now unemployed and underemployed. The latter term was clarified as follows: "the skills of many persons now employed are inadequate to enable them to make their maximum contribution to the nation's economy" (MDTA Title I, as amended, 42 USC 2571 et seq. P.L. 87-415, 15 March 1962). Later, the Comprehensive Employment and Training Act of 1973 used the same terminology, unemployed and underemployed persons. When a worker is employed even full time at a job below the worker's skill level, that person may be considered underemployed. The stereotypical example of below skill underemployment is the college graduate driving a taxi.

Compensation

Compensation is a factor in underemployment when a worker is employed full time, at a job consistent with his or her capabilities and desires, but receives inadequate remuneration either absolutely—below subsistence level, or relatively—less than the norm for that occupation. Compensation is also a factor when an occupation pays less than other occupations requiring equivalent skills. An example of pay at less than the occupational norm would include women who receive lower pay in a given occupation than men. Examples of low-paying occupations are those with a heavy concentration of women or minorities that have come generally to pay less than other occupations at similar levels of skill. Secretaries typify this phenomenon.

The Vocabulary and Methodology of Unemployment and Underemployment

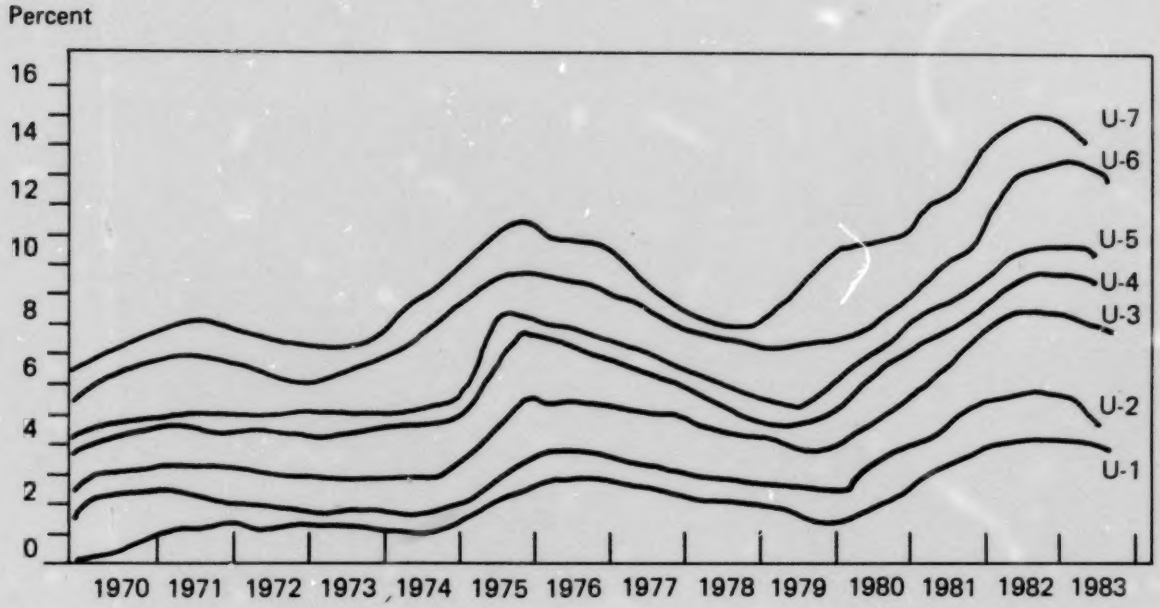
To understand unemployment, and by extension underemployment, which has in many respects a regular relationship to unemployment, one must know how unemployment statistics are gathered and what they mean. The U.S. Bureau of Labor Statistics conducts a detailed monthly survey for the Labor Department that, by sampling nearly 60,000 households, determines the size of the labor force, the number of employed persons, and the number of unemployed persons. Thus far it seems quite straightforward. The number of unemployed persons divided by the size of the labor force is the unemployment rate.

But there are complexities. A series of questions must be asked to determine whether those surveyed are in the labor force and employed. Those actually working or temporarily off work due to illness, vacation, bad weather, or a labor dispute are considered employed. Those who were out of work during the week of the survey and are actively seeking work are classified as unemployed. To be classified as unemployed one must have engaged in specific job-seeking activity within the past 4 weeks, be waiting for a call back to a job from which he or she had been laid off, or be waiting to report to a new job within 30 days. A person out of work and not looking for a job (perhaps under the impression that jobs aren't available) is not classified as unemployed. That person, a "discouraged worker," is not counted in calculating the unemployment rate. Also, those in job training programs are not counted either, a practice that at one time was estimated to reduce the unemployment rate by 0.5 percent (Killingsworth 1970). With the current cutbacks in job training programs, the effect would be less. A major influence in further underestimating the unemployment rate is the way the survey treats those who work part time: they are considered employed. In fact, 1 hour of paid work per week qualifies a person as employed. If workers are on a part-time schedule for noneconomic reasons (weather, labor dispute, vacation) but usually work full time, they are counted as full-time employed.

Suppose 150 people are surveyed; 100 are in the labor force, 90 employed and 10 unemployed. The unemployment rate is 10 percent. Now suppose that 5 additional persons surveyed are discouraged workers. If they were counted, the unemployment rate would be 14.3 percent (15/105). Suppose an additional 6 were working up to 34 hours per week, although they wanted and were available for full-time work. They could be calculated into the unemployment rate at half their numbers—since half (their approximate average hours worked) a job is better than none. Our hypothetical unemployment rate is now 16.2 percent (18/111). The difference in computing the rate to include discouraged and part-time workers is significant. But figures on discouraged or part-time workers are rarely publicized or even commonly available to the public. Figure 1 illustrates the differences in calculating the unemployment rate over a number of years using seven different methods.

More than 100 years ago Francis Walker (U.S. Bureau of Labor Statistics 1976) made a relevant comment as he introduced the new Director of the Massachusetts Department of Statistics and Labor, Carroll Wright.

> The country is hungry for information; everything of a statistical appearance is taken up with an eagerness that is almost pathetic; the community have not yet learned to be half skeptical and critical enough in respect to such statements. (p. 1)



SOURCE: Sprinkle 1983, p. 57

U-1 = Percent of labor force unemployed 15 weeks or more

U-2 = Job losses as percent of civilian labor force

U-3 - Unemployment 24 years or older as percent of civilian labor force

U-4 = Unemployment 25 years or older as percent of labor force 25 years or older

U-5 = Unemployed full-time job seekers as percent of full-time labor force (official rate)

U-6 = First-time job seekers plus one half of part-time job seekers plus one half of total working part time for economic reasons as percent of civilian force less one half of part-time workers in civilian labor force

U-7 = Total first-time job seekers plus one half of part-time job seekers plus one half of part-time for economic reasons plus discouraged workers less one half of part-time labor force

Figure 1. Unemployment measures based on alternative definitions of unemployment and the labor force, 1970-1983.

INCIDENCE OF UNDEREMPLOYMENT

> When a great many people are unable to find work, unemployment results. Calvin Coolidge (quoted in Walker 1934, p. 131)

There is evidence that underemployment is pervasive in our society. Some types are more easily measured than others, but it is clear that many Americans are underemployed.

Part-time Underemployment

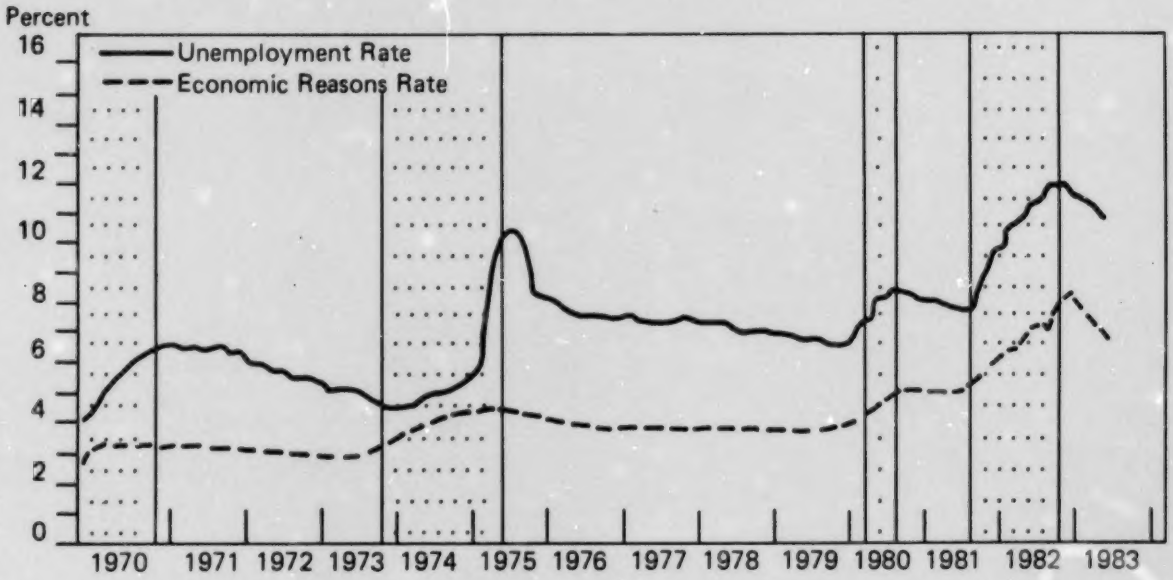
Since the Department of Labor does keep statistics on those who work 85 percent of the time or less and on number of hours worked, a good indication of the numbers is available. Figure 2 gives a general indication of the size of this group; the number increases and decreases in a regular relationship with the number of unemployed.

Recently, the number of part-time underemployed has been increasing, while remaining proportionate to the official unemployment rate; as the base unemployment rate has risen—from 4 to 5 percent in the early 1970s to 7 to 8 percent in the mid-1980s—so has the number of part-time underemployed risen—from 3 to 5 percent over the same period. This relationship can be seen in figure 2 and is also reflected in figure 1 as the distance between U-5 (official rate) and U-6 (first-time job seekers plus one half of part-time job seekers plus one half of the total working part time for economic reasons as percent of labor force less one half of part-time workers in labor force). The gap between the official rate and U-6 is growing—from less than 2 percentage points in 1970-72 to more than 3 points in 1982-83. This may be a long-term trend in underemployment or merely the reflection of the overall higher unemployment of the latter period.

Below Skill Utilization Underemployment

Below skill utilization unemployment is one "which has frustrated social scientists for years" (Jones 1982, p. 1). Although unemployment is clearly and easily measured, underemployment of this type is conceptually murky and operationally difficult to quantify. However, below-skill level underemployment has been measured by both subjective measures ("I consider myself underemployed") and objective ones (discrepancy between actual educational level and that required by the job).

The best studies of underemployment have been conducted on college graduates. If a discrepancy between job requirements and skill attainment exists, it will be easier to spot with the more advanced skill-level workers.



SOURCE: Sprinkle 1983, p. 71.

NOTE: Shaded areas denote recession periods.

Figure 2. Unemployment rate and percent of nonfarm workers on part-time schedules for economic reasons, 1970-1983.

Increasing Technology and Job Skill Level

A crucial phenomenon in the workplace today is increasing technology and automation. Two opposing points of view about the impact of technology on jobs exist: (1) increasing technology lowers skill requirements of jobs (Ayres and Miller 1983; Bright 1958; Carter 1975; Chamot 1983; Freeman 1976; Gordon 1974; Grasso 1977; and Rumberger 1981, 1983b, 1984) and (2) increasing technology increases job skill requirements (Birch 1983; Carey 1982; Lindsey 1983).

Russell Rumberger (1984) argues the former viewpoint, contending that increasing technology "deskills" jobs and since the use of technology will continue to increase, there will be less need for the highly educated. He cites several studies (Ayres and Miller 1983; Bright 1958) and projections by the U.S. Bureau of Labor Statistics (BLS):

- High tech industry will only generate 7 percent of the jobs in 1980-90.
- Of 20 occupations on the BLS list that generate 30 percent of the new jobs, not 1 is high tech and only 2 require college education.
- Robots will create 32,000-64,000 new jobs by 1990 while eliminating 100,000-200,000 for a net loss of 36,000 (best case) to 168,000 jobs (worst case).

- It is more efficient to eliminate $15-per-hour jobs with technology rather than $5-per-hour jobs.

- Approximately 1.4 million janitors and fast-food workers will be required from 1980-90, but only 288,000 computer analysts and operators will be needed.

- Ultimately, computers, which are extremely flexible, will replace mental work such as planning, supervision, middle management, evaluation, and decision making.

These are especially gloomy developments for college graduates.

The opposing point of view is based on the fact that previous technological advances have always produced a spectacular growth in both employment and real wages. Leontief (1982) finds that

> Thanks to technological innovation more than half the labor force in all these (industrialized) countries—70 percent of the U.S. labor force—has been relieved from labor in agriculture and other goods production that employed substantially everyone before the Industrial Revolution. (p. 188)

The same author cautions, however, "that past experience cannot serve as a reliable guide to form the future of technological change" (ibid.).

Richard W. Riche (1982) describes the effects of the new technologies in various industries, including manufacturing, telecommunications, and the office. He draws the following conclusions:

- The pace of automation varies among industries.

- The size of the investment, capacity to absorb technology, and institutional arrangements constitute an economic governor on change.

- Industries with greater application of technology experience higher increases in productivity, e.g , airlines and telephones versus furniture and footwear.

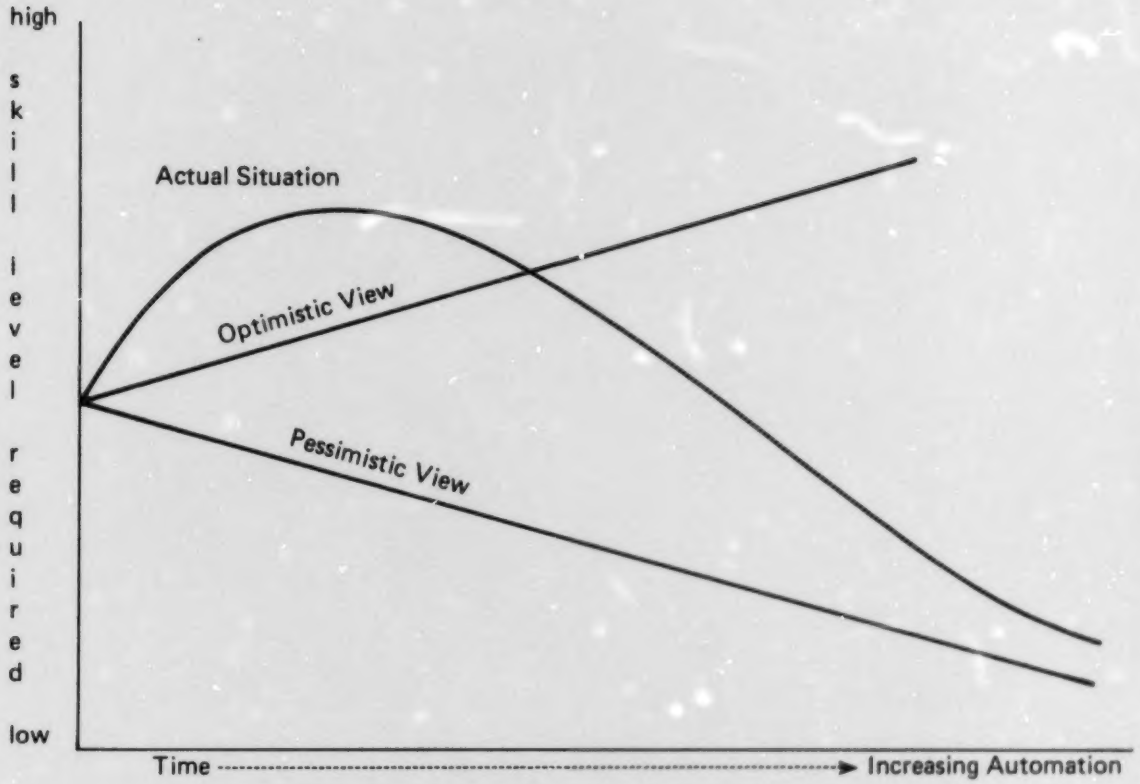
- Technological change modifies job content; there is more demand for formal knowledge, precision, and perceptual ability.

- Higher education attainment is essential; oral and written communication skills are mandatory for machine comprehension and retraining.

- Many new occupations are created that can be filled by retraining.

- Few employees are laid off in the wake of advancing technology due to advance notice, retraining, and reassignment of workers.

There is evidence that *both* views about the impact of technology on skill level are true: technology first raises, then ultimately lowers the skills required of the worker. James Bright (1958) discovered this phenomenon when examining the impact of technology on U.S. industry in the 1950s.



SOURCE: Adapted from Bright 1966, p. II-209.

Figure 3. Relationship between skill level and automation

The conventional assumption is that increasing technology increases job skill requirements. The pessimistic assumption is that it decreases skill requirements. Bright's (1966) research indicates that initially technology does indeed raise worker skill level, but ultimately, as the technology matures and becomes more user friendly, worker skill requirements decrease. Figure 3 illustrates the impact of automation on worker skills. Studies of the printing industry (Zimbalist 1979), one of the first to be automated, confirm this analysis.

Social implications of the application of new and adaptable technology are profound:

- Full employment may not be possible once technology matures.
- The method of distributing income based on work may have to be changed if skill requirements decline and few jobs exist relative to the demand.
- Work may become boring and workers stultified (O'Toole et al. 1973; Smith 1937)

- Increased below skill utilization underemployment will result from the combination of the deskilling of work and rising levels of education (Rumberger 1981, 1983b, 1984).

For the general working population, the current rate of underemployment for low skill utilization has been variously estimated at 40 percent (Duncan and Hoffman 1979), 33 percent (Staines and Quinn 1979), and 25 percent (Berg, Freedman, and Freeman 1978) comparing years of education with educational requirements of the job; and 13 percent comparing educational attainment with stated job requirements (ibid.). The average discrepancy between attained and required years of education was estimated at 1.8 years by Duncan and Hoffman (1979) and 0.68 by Rumberger (1983b) who used the *Dictionary of Occupational Titles*' general educational development levels as the educational requirements for jobs.

Low Compensation Underemployment

Low compensation underemployment is the most difficult type of underemployment to verify, since it involves decisions about how many full-time workers earn less than the poverty level or which occupational groups received less compensation than others doing similar skill level work. Nevertheless, there are some indicators that both kinds of low compensation underemployment are widespread.

Below Poverty Level Workers

About half (48.7 percent) of the below poverty level population in the United States work, and nearly one third (32 percent) work full time. Although the proportion of working poor has remained steady in recent years (it was 50.3 percent in 1975), due to the increase in the size of the labor force, the actual number of working poor increased by a third from 1975 to 1982. Thus, about 1.7 million Americans are working full time but earning less than the poverty level, which qualifies them to be considered low compensation underemployed. Another 2.5 million poor worked part time; however, how many of these wanted full-time work and were available for it is uncertain. One can surmise though, that low income individuals are probably motivated to work full time, given the opportunity. Table 1 details the situation for 1975 and 1982. Note the differences between female- versus male-headed households and blacks versus whites. As may be expected, poor women heading households are less likely than males to work full time, and poor black males are less likely than poor white males to find full-time employment. These data indicate that of the 7.5 million impoverished heads of households, 23 percent experience low compensation underemployment because they work full time. An unknown but possibly large percentage of another 2.5 million poor part-time workers experience part-time underemployment, assuming they are available for full-time work.

Stagnant Wages, Increasing Poverty

The American labor force has grown steadily over the past 20 years; however, most of that growth has occurred in the relatively low wage service and trade sector (Sprinkle 1983). This, plus high inflation rates, has resulted in a slight net decrease in wages, both among individuals and families. Despite the increase in multiple wage earners, the median family income has fallen from $25,317 in 1970 to $24,580 in 1983 in constant dollars (U.S. Bureau of the Census 1985). In addition, both the number and, more alarmingly, the proportion of persons below the poverty level has been increasing since 1978. In 1983 more than 47 million persons (20.3 percent) were below 125

TABLE 1

WORK EXPERIENCE OF FAMILY HOUSEHOLDERS BELOW THE POVERTY LEVEL, BY SEX AND RACE, 1975 AND 1982

Work Experience	1975						1982					
	Female Householder No Husband Present			All Other Families			Female Householder No Husband Present			All Other Families		
	All Races[a]	White	Black	All Races[a]	White	Black	All Races[a]	White	Black	All Races[a]	White	Black
Total[b]	2,430	1,394	1,004	3,020	2,444	509	3,434	1,873	1,535	4,079	3,306	622
Worked	887	518	362	1,857	1,533	272	1,247	692	527	2,413	2,055	283
Full-time[c] (percentage)	15.2	14.5	16.6	39.4	40.3	34.9	18.0	15.0	21.1	39.7	41.7	28.6
Did Not Work[d]	1,543	876	641	1,133	884	236	2,187	1,120	1,008	1,646	1,233	335
Ill or disabled	309	150	157	565	430	133	371	154	211	553	429	109
Keeping house	1,053	647	387	26	19	7	1,267	728	504	128	91	31
In school	43	13	30	30	13	12	82	50	27	61	34	9
Unable to find work	99	41	55	117	92	22	379	129	241	352	250	83

SOURCE: U.S. Bureau of the Census 1985, p. 458.

NOTE: Data are expressed in thousands or percentages, where indicated. 1975 data include householders 14 years old and over. 1982 data include householders 15 years old and over.

[a] Includes races not shown separately.
[b] Includes householders in Armed Forces not shown separately.
[c] Year-round.
[d] Includes others not shown separately.

percent of the poverty level, a common way of assessing low income status. Table 2 shows the poverty figures from 1959 to 1982. Note the higher incidence of poverty among blacks—triple the white rate—and among Hispanics—more than double the white rate.

Median wages paid in 1982 in the trade sector ($6.21 per hour) and service sector ($6.90 per hour) are considerably lower than in the manufacturing sector ($8.50 per hour) (U.S. Bureau of Labor Statistics 1982). Table 3 shows occupations with highest projected employment increases during the 1980s and the wages for each. Note that of 15 listed, 11 are occupations in which women predominate, and that except for nurses and teachers, the wages are very low. This table also shows the growth of the service and trade sectors.

Populations at Risk

Underemployment is not equally distributed among Americans; certain groups are more likely to experience underemployment.

Farm Workers

In measures of low wage and part-time underemployment, perhaps the most underemployed workers in the United States are farm laborers. In 1984, the median hourly wage of nearly 3 million farm workers was $4.16. The average family income of hired farm workers was only 63 percent of the U.S. average. (For those employed in March 1984, it was 55 percent.) Moreover, because farm work is seasonal, farm workers averaged only 105 days of farm work during the year (U.S. Department of Agriculture 1984; Whitener 1984), and in most cases farm workers are not eligible for unemployment insurance.

Although the number of farm laborers declined precipitously for some time, the decline slowed dramatically in 1970: it has held steady at 2.7 million since 1976, after declining from 3.2 million in the 1960s and 3.6 million in the 1950s (Daly 1981; U.S. Bureau of the Census 1985). The number of farms however, has continued to dwindle steadily, but a lower limit on the number of workers needed may be approaching; therefore, the underemployment problem of some 2.7 million underemployed farm workers may not simply disappear. If farm workers were paid a decent living wage, some say that food prices would rise and consumers would complain. However, our Nation has survived quite nicely the rise in auto workers' wages, accountants' wages, and even the enormous salaries of the "captains of industry." Willard Wertz, former Secretary of Labor, suggested in the early 1960s that agriculture should pay its workers wages comparable to those of workers in other industries. Farm workers, however, have made no real progress in increasing their earnings, despite tremendous gains in farm productivity. If gains in productivity are the key to real wage improvement, why haven't farm workers improved their economic position? Probably because they are the most easily exploited workers in our system: they are unorganized, poorly educated, often have no alternative job opportunities, and have been socialized to accept their hard living conditions. Many live in virtual peonage. The balance of power weighs heavily against farm workers. Furthermore, the Federal Government, which might redress this imbalance, has done little to assist farm laborers to acquire either power or pay equity. In fact, for the past 13 years, "the Department of Labor has resisted mandating anything as basic as toilets, drinking water and handwashing facilities for farm workers in fields" (Kaplan 1985, p. 4K). Edward R. Murrow's "Harvest of Shame" is still with us 25 years later.*

*"Harvest of Shame", a CBS Television news documentary narrated by Edward R. Murrow depicted the plight of U.S. migrant farm workers in the early 1960s. It was originally broadcast on November 25, 1960.

TABLE 2

PERSONS BELOW POVERTY LEVEL AND BELOW 125 PERCENT OF POVERTY LEVEL, 1959 TO 1983

(Persons as of March of the following year)

Year	Number Below Poverty Level (in millions)				Percent Below Poverty Level				Below 125 Percent of Poverty Level		Average Income Cutoffs for Nonfarm Family of Four[c]	
	All Races[a]	White	Black	Spanish Origin[b]	All Races[a]	White	Black	Spanish Origin[b]	Number (in millions)	Percentage of Total of Population	At Poverty Level	At 125 Percent of Poverty Level
1959	39.5	28.5	9.9	(NA)	22.4	18.1	55.1	(NA)	54.9	31.1	$ 2,973	$ 3,716
1960	39.9	28.3	(NA)	(NA)	22.2	17.8	(NA)	(NA)	54.6	30.4	$ 3,022	$ 3,778
1966	28.5	20.8	8.9	(NA)	14.7	12.2	41.8	(NA)	41.3	21.3	$ 3,317	$ 4,146
1969	24.1	16.7	7.1	(NA)	12.1	9.5	32.2	(NA)	34.7	17.4	$ 3,743	$ 4,679
1970	25.4	17.5	7.5	(NA)	12.6	9.9	33.5	(NA)	35.6	17.6	$ 3.968	$ 4,960
1971	25.6	17.8	7.4	(NA)	12.5	9.9	32.5	(NA)	36.5	17.8	$ 4,137	$ 5,171
1972	24.5	16.2	7.7	2.4	11.9	9.0	33.3	22.8	34.7	16.8	$ 4,275	$ 5,344
1973	23.0	15.1	7.4	2.4	11.1	8.4	31.4	21.9	32.8	15.8	$ 4,540	$ 5,675
1974	23.4	15.7	7.2	2.6	11.2	8.6	30.3	23.0	33.7	16.1	$ 5,038	$ 6,298
1975	25.9	17.8	7.5	3.0	12.3	9.7	31.3	26.9	37.2	17.6	$ 5,500	$ 6,875
1976	25.0	16.7	7.6	2.8	11.8	9.1	31.1	24.7	35.5	16.7	$ 5,815	$ 7,269
1977	24.7	16.4	7.7	2.7	11.6	8.9	31.3	22.4	35.7	16.7	$ 6,191	$ 7,739
1978	24.5	16.3	7.6	2.6	11.4	8.7	30.6	21.6	34.2	15.8	$ 6,662	$ 8,328
1979	25.3	16.8	7.8	2.9	11.6	8.9	30.9	21.6	35.6	16.3	$ 7,412	$ 9,265
1979	26.1	17.2	8.1	2.9	11.7	9.0	31.0	21.8	36.6	16.4	$ 7,412	$ 9,265
1980	29.3	19.7	8.6	3.5	13.0	10.2	32.5	25.7	40.7	18.1	$ 8,414	$10,518
1981	31.8	21.6	9.2	3.7	14.0	11.1	34.2	26.5	43.7	19.3	$ 9,287	$11,609
1982	34.4	23.5	9.7	4.3	15.0	12.0	35.6	29.9	46.5	20.3	$ 9,862	$12,328
1983	35.3	24.0	9.9	4.2	15.2	12.1	35.7	28.4	47.1	20.3	$10,178	$12,723

SOURCE: U.S. Bureau of the Census 1985, p. 456.

NOTE: NA means data were not available.

[a] Includes other races not shown separately.
[b] Persons of Spanish origin may be of any race.
[c] Beginning 1981, income cutoffs for nonfarm families are applied to farm and nonfarm families.
[d] Population controls based on 1970 census.
[e] Population controls based on 1980 census.
[f] Data based on revised poverty definition.

TABLE 3

OCCUPATIONS WITH HIGHEST PROJECTED EMPLOYMENT INCREASES, 1980 TO 1990

Occupation	1980 Employment (in thousands)	Projected Increase by 1990 (in percentages)	1982 Annual Median Wage (in dollars)
Secretary	2,469	28-37	$12,600
Nursing Aide, Orderly	1,175	43-53	9,500
Janitor, Sexton	2,751	18-27	11,900
Sales Clerk	2,880	17-25	9,800
Cashier	1,593	28-36	9,200
Professional Nurse*	1,104	40-47	19,000
Truck Driver	1,696	25-33	17,200
Food Service, Fast-food*	806	50-57	8,700
General Clerk, Office*	2,395	16-24	12,800
Waiter, Waitress	1,711	21-28	8,200
Bookkeeper, Accounting Clerk*	1,715	15-24	12,700
Elementary School Teacher	1,286	20	18,100
Miscellaneous Assemblers*	1,219	20-31	12,800
Laborers	5,860	14-22	12,600
Kitchen Helpers*	839	28-35	7,800

*Data on 1982 earnings were taken from unpublished Bureau of Labor Statistics tabulations of the Current Population Survey. Some job titles did not correspond exactly, so the closest job title was taken (professional nurse equals registered nurse, fast-food service equals food service worker, general office clerk equals miscellaneous clerical worker, bookkeeper and accounting clerk equals bookkeeper, miscellaneous assemblers equals assembler, kitchen helpers equals dishwashers).

SOURCE: Adapted from U.S. Bureau of Labor Statistics (1982).

Women

Next to farm laborers, women experience the most serious low earnings underemployment. In fact, the earnings gap between men and women is neither a simple nor undebated question. Although an unexplained gap that can be attributed to "unfairness" or socially derived biases existed for many years, notable progress has been recorded recently. A Rand Corporation study (cited in Quinn 1985) indicates that women, by increasingly entering traditionally male jobs, have improved their wages relative to men. Young female labor market entrants are doing better also: in 1983, 20-to 24-year-old women earned 86 percent of what men those ages earned. Moreover, of the 1.2 million women who entered the labor force in that year, only one third entered traditionally female occupations. Occupations filled mostly by women have low median wages: secretaries earn $12,600; sales clerks, $9,800; cashiers, $9,200; waitresses, $8,200; bookkeepers, $12,700, and nurse aides, $9,500 (U.S. Bureau of Labor Statistics 1982).

Data on part-time underemployment are more difficult to acquire, and are subject to various interpretations. However, the number of women classified as voluntary, part-time employed exceeds that of men so classified by almost a 3 to 1 ratio. The unemployment rates of voluntarily part-time employed women are somewhat lower than those of men (see table 4).

Women's working patterns differ from men's, not only because they tend to enter and leave the labor force more often (mainly due to childbearing and child rearing) but also because they tend to commit fewer hours to work when in the labor force. Both factors tend to lower women's earnings. The obvious conclusion is that because women bear the major share of childrearing, they lose earnings. Although generally classified as voluntary part-time workers, improvements in child care would allow more women to work full time. In this light, women are not voluntarily employed part time. Although women have not been able to gain day care as a right through legislation, an increasing number of employers offer it as a fringe benefit. Part-time women workers do not suffer the wage gap of full-time workers (earning $3.21 versus $3.20 for men in 1979 as shown in table 5). But the wages for both groups are close to minimum wage. Whereas most men who work part time are either teenagers (16-19) or older workers (55 and older), most women who work part time are in their prime working years, 25 to 54 years old (U.S. Bureau of the Census 1985).

The concentration of women in certain occupations is well known and is detailed in graphic form in figure 4. This figure obscures the occupational segregation of women in the professional and technical area. Men are more likely to be engineers, architects, physicians, dentists, lawyers, and related practitioners; women are more likely to be nurses, librarians, health technologists, social workers, and teachers, all traditional female occupations.

Youth

In recent years, much has been made of the problem of youth unemployment, especially black youth unemployment. The problem is often interpreted to mean that youth have trouble finding jobs; however, the problem centers largely on a small group who constitute less than 10 percent of the youth labor force and 7 percent of the youth population. Members of this group are disproportionately black, school dropouts, and live in poverty areas. Little, however, has been said about underemployment, especially part-time and low wage underemployed youth. Although any job, even at minimum wage or short hours, is an improvement considering minority youth unemployment rates of 35 and 45 percent (Freeman and Medoff 1982), young workers are experiencing low earnings underemployment ($213 per week for those ages 16-24 in 1982), and part-time underemployment (voluntary part time is 17 percent; involuntary is 19 percent) (U.S. Bureau of Labor Statistics 1983). Whereas for youth ages 16-19, part-time and low earning unemployment is a serious problem, for college graduates ages 20-24 skill underutilization is a problem.

TABLE 4

FULL- and PART-TIME STATUS OF THE CIVILIAN LABOR FORCE, 1965 TO 1983

ITEM	Full-Time					Part-Time				
	1965	1970	1975	1980	1983	1965	1970	1975	1980	1983
Civilian labor force	65,929	71,069	80,117	91,295	95,736	8,527	11,703	13,659	15,644	15,814
Percentage of total	88.5	85.9	85.4	85.4	85.8	11.4	14.1	14.6	14.6	14.2
Employed	63,138	67,863	73,595	85,027	86,661	7,952	10,814	12,251	14,275	14,172
Unemployed	2,791	3,206	6,523	6,269	9,075	575	889	1,408	1,369	1,642
Percent[a]	4.2	4.5	8.1	6.9	9.5	6.7	7.6	10.3	8.8	10.4
Males, 20 years and over	43,243	44,962	48,895	53,571	55,636	1,616	2,259	2,601	2,883	3,108
Employed	41,892	43,460	45,640	50,405	50,653	1,530	2,122	2,378	2,697	2,834
Unemployed	1,351	1,502	3,255	3,167	4,982	86	137	223	186	274
Percent[a]	3.1	3.3	6.7	5.9	9.0	5.3	6.1	8.6	6.5	8.8
Females, 20 years and over	19,138	22,226	26,359	32,722	35,854	4,550	6,074	7,052	8,383	8,782
Employed	18,260	21,149	24,148	30,588	32,812	4,371	5,003	6,578	7,904	8,192
Unemployed	878	1,077	2,210	2,135	3,042	179	271	474	480	589
Percent[a]	4.6	4.8	8.4	6.5	8.5	3.9	4.5	6.7	5.7	6.7
Persons, 16-19 years	3,549	3,881	4,864	5,001	4,247	2,361	3,370	4,005	4,377	3,924
Employed	2,966	3,254	3,807	4,035	3,196	2,050	2,889	3,295	3,676	3,146
Unemployed	563	626	1,057	966	1,051	311	480	709	701	778
Percent[a]	15.9	16.1	21.7	19.3	24.7	13.2	14.3	17.7	16.0	19.8

SOURCE: U.S. Bureau of the Census 1985, p. 395.

NOTE: Data are expressed in thousands or percentages where indicated. Data include persons 16 years old and older. Data were calculated using annual averages of monthly figures. The part-time (working less than 35 hours per week) labor force consists of persons working part-time voluntarily and unemployed persons seeking part-time work.

[a] Unemployed as percent of civilian labor force in specified group.

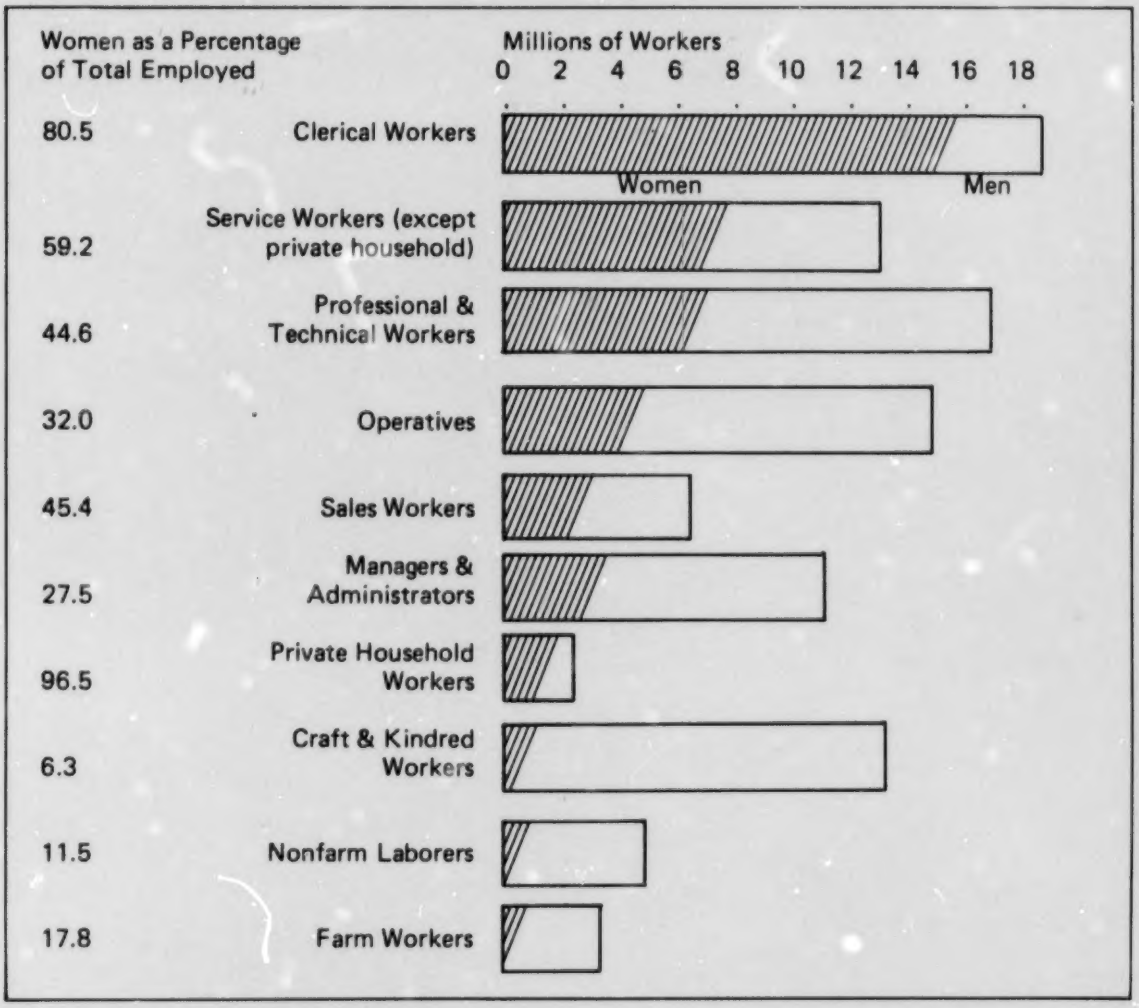
TABLE 5

MEDIAN HOURLY EARNINGS OF FULL- AND PART-TIME WAGE AND SALARY WORKERS, BY SEX AND RACE, 1979

	All Workers		Usually Full Time		Usually Part Time	
	Number (in thousands)	Median	Number (in thousands)	Median	Number (in thousands)	Median
Total						
Female	22,866	$3.66	14,780	$3.98	8,085	$3.21
Male	27,771	5.73	14,195	6.25	3,577	3.20
White						
Female	19,680	$3.66	12,359	$3.99	7,321	$3.23
Male	24,051	5.89	20,912	6.39	3,139	3.21
Black						
Female	2,717	$3.60	2,078	$3.88	638	$2.96
Male	3,241	5.03	2,900	5.27	341	3.04
Hispanic[a]						
Female	1,162	$3.45	878	$3.60	284	$3.18
Male	1,875	4.88	1,694	5.09	181	3.12

SOURCE: U.S. Women's Bureau 1983, p. 93.

[a]Persons of Hispanic origin may be of any race. According to the 1970 census, 96 percent of the Hispanic population was racially classified as white.



SOURCE: U. S. Women's Bureau 1983, p. 52.

Figure 4. Employment in different occupational groups varies by sex. Major occupational groups of employed women and men, 1981 average.

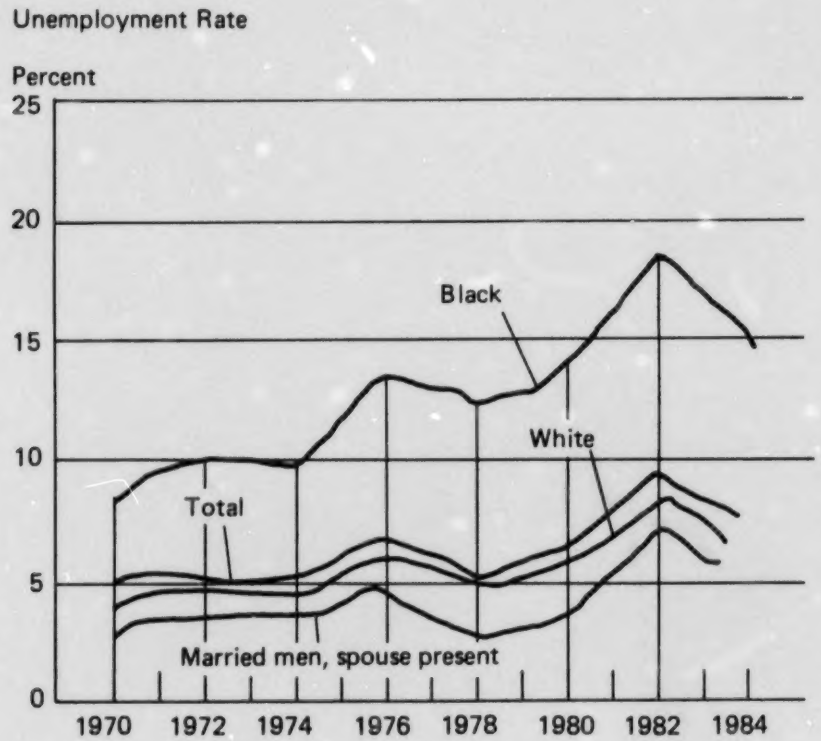
The demographics of the youth labor market problem are becoming more favorable as the large cohorts of those born during the late 1950s and early 1960s age and are replaced by smaller cohorts of youth entering the work force. However, the decrease in the pool of available workers is being compensated for by an increase in the labor force participation rate for young people. Currently, that rate is over 60 percent for 18- and 19-year-olds, up from 57 percent in 1973 and 52 percent in 1947.

Minorities

The underemployment of minorities—blacks, Hispanics, and native Americans—is greater than that of the rest of the population, but there are significant differences among these groups.

Blacks. Blacks are the largest minority group in this country, and though they have made gains in the job market over the past 2 years, they still earn less than whites and tend to be concentrated in service and blue-collar occupations, though somewhat less so than in the past.

The overall labor force participation rate for blacks is close to that of whites (61.5 percent versus 64.3 percent) and of late both have been increasing. The black female participation rate exceeds that of white females (54.2 percent versus 52.7 percent), whereas the black male rate is lower than that of white males (70.6 percent versus 77.1 percent). The unemployment rate for blacks tends to run two to three times higher than that of whites, and during recent years, it seems to be getting worse. Figure 5 illustrates this trend.



SOURCE: U.S. Bureau of the Census 1985, p. xxi.

Figure 5. Unemployment rate

The gross earnings gap between blacks and whites is fairly large (25 percent in 1979) and for black women even less explicable than that of white women; therefore, it is more likely the result of discrimination. More of the gap for black men can be explained by education, labor force attachment, and work experience and thus is less likely discriminatory according to one study that found the unexplained portion of the wage gap to be 69 percent for black women, 45 percent for black men, and 58 percent for white women (Duncan and Morgan 1978). Thus, the following is true:

- Black men suffer a notable wage gap (28 percent in 1981, 25 percent in 1982 and 1983) compared to white men, only 55 percent of which is explained by various job factors.

- Black women are more equally paid compared to white women (an 8.7 percent gap in 1983) and experience a 4.8 percent wage gap compared to men. But only 31 percent of the gap is explainable (U.S. Bureau of the Census 1985).

From this analysis, black women appear to suffer a more arbitrary (discriminatory) but similar size penalty in earnings compared to black men.

The situation is different for black part-time workers: black women had an 8 percent wage gap in 1979 as compared to white women, probably due to the low wages of domestics, a majority of whom are black. Black men who work part time experience a somewhat smaller earnings gap compared to white men (5 percent in 1979). The differences among part-time workers tend to be smaller because the pay is so close to the minimum wage.

Hispanics. Hispanics are composed of several different groups: 60 percent Mexican Americans, 18 percent Puerto Ricans, 8 percent Central and South Americans, 6 percent Cubans, and 12 percent other Spanish heritage. Nine of 10 Mexican Americans live in the Southwest; 7 of 10 Puerto Ricans live in New York, New Jersey, and Pennsylvania; and 6 of 10 Cubans live in Florida. All Hispanics suffer from low wage underemployment, but Cubans earn more than other Hispanics, and all earn less than whites. Table 6 summarizes the work problems of Hispanics.

TABLE 6

LABOR FORCE PROBLEMS OF HISPANIC GROUPS

Hispanic Group	Characteristic Work Problem
Puerto Rican Men:	Mostly low-level agriculture and blue-collar jobs, least earnings of any male group
Mexican American Men:	Mostly low-level agriculture and blue-collar jobs, least earnings of any male group
Mexican American Women:	High unemployment, concentration in menial work, lowest wages of Hispanics
Cuban Men and Women:	Better than other Hispanic groups in unemployment, wages, and participation but lower wages than non-Hispanic whites

SOURCE: Adapted from Hogue 1983, pp. 555, 556, 557.

The principal causes for the poor situation of Hispanics in the labor force are lack of formal schooling, lack of proficiency in English, and discrimination in the labor market.

The wage gap for Hispanics versus whites was 22.1 percent in 1983; the male Hispanic gap was 31 percent compared to white males; Hispanic females suffered a 17.4 percent gap versus white women and 47.4 percent versus white men (U.S. Bureau of the Census 1985).

The problems of Hispanics are serious and since they are a growing proportion of the U.S. population (6.5 percent in 1982, up from 4.5 percent in 1970), their problems represent an increasingly important social concern in American society.

Native Americans. Native Americans suffer the highest rates of unemployment and underemployment of any group. Although data are sparse and sometimes nonexistent, unemployment rates on some reservations run about 50 percent. This is mostly because reservations are isolated and lack an economic base. While native Americans are a relatively small group—about 1 million—they are increasing at twice the National rate, because of their high birth rate. More than half live in Arizona, and 90 percent reside in just 10 western states; the largest reservation group is the Navajo, which numbers about 150,000. The diversity of native Americans is remarkable: they speak more than 300 separate languages and their values, traditions, and cultures vary widely. Their experience in the labor market unhappily does not.

Although labor force participation rates are lower for native Americans than for other groups (about 65 percent overall, with 74 percent in urban and 57 percent in rural areas), their unemployment rate is about 3 times that of the overall white rate. In the 115 largest reservations, the unemployment rate was estimated at 18.6 in 1973, as compared to the white rate at 3.6 percent. The Bureau of Indian Affairs estimates unemployment rates are as high as 49 percent on some reservations (Levitan, Mangum, and Marshall 1976). Low wages are endemic, and part-time underemployment is the rule. The situation is execrable, and perhaps growing worse, although difficult to predict because data are scarce, unreliable, and infrequently gathered.

College Graduates

It may seem odd to include college graduates, generally an economically favored group, as a population at risk for underemployment. However, they are more at risk for below skill utilization underemployment than the general population. Rumberger (1983b, 1984) found that, whereas the average underemployment was 0.68 years of skill level discrepancy between educational attainment and job requirement for the general working population, for college graduates, it was as follows:

- 2.13 years of skill-level discrepancy for white men
- 2.29 years of skill-level discrepancy for black men
- 1.88 years of skill-level discrepancy for white women
- 1.49 years of skill-level discrepancy for black women

This is especially distressing because college attendance has doubled between 1965 and 1983 (U.S. Bureau of the Census 1985), and the Nation's investment in higher education is increasing. Berg (1970) found that those with 16 years of education were at far greater risk of underemployment (59 percent) than the general population (13 percent)—or using a different methodology, 64 percent versus 25 percent. In a study by Ochsner and Solomon (1979), 44 percent of a sample of college grads described themselves as underemployed. On the other hand, Duncan and Hoffman

(1979) discovered a lower underemployment rate among the college educated: 36 percent versus 40 percent for the general working population. Whether the rate is 59 percent, 44 percent, or 36 percent, a serious social problem exists because of the cost of education and the higher expectations among the educated. Surprisingly among college graduates, underemployment seems less prevalent among women than men, and not very different among blacks and whites. These findings were generally confirmed by Phelan and Phelan (1983) and are summarized in table 7. Percentages are subjective (self-reported as having skills beyond job requirements); and objective (discrepancy between actual educational attainment and education required by the job).

As the table shows, males consider themselves significantly less underemployed than others, although 42 percent is still a very high figure. Surprisingly, the attained and required educational discrepancy for blacks is significantly less than others.

Phelan and Phelan (ibid.) also noted differences in self-assessed underemployment among majors in different fields as shown in table 8. Thus, social science, business, and humanities majors are most likely to be underemployed by both subjective and objective measures; education, engineering, and physical science majors are the least likely by both measures.

Phelan and Phelan (ibid.) also studied job characteristics and underemployment, examining six working conditions and six preferences. They found that the underemployed workers prefer the following job characteristics:

- Less direction, control, and planning
- Less decision making based on judgment
- Less talking

TABLE 7

PERCENT AND YEARS OF UNDEREMPLOYMENT AMONG COLLEGE GRADUATES

	Percent Self-reported Underemployed (Subjective)	Number of Years Discrepancy between Education Attained and Required (Objective)
Male	42.5*	2.85
Female	46.8	2.94
Black	47.8	2.70*
White	43.4	2.91
Total Sample	43.8	2.88

SOURCE: Adapted from Phelan and Phelan 1983, p. 25.

NOTE: N = 2,533.

*Significant at the .05 level.

TABLE 8

PERCENT AND YEARS OF UNDEREMPLOYMENT AMONG DIFFERENT COLLEGE MAJORS

	Percent Self-reported Underemployed (Subjective)	Number of Years Discrepancy between Education Attained and Required (Objective)
Physical Science	44.1*	2.49
Social Science	53.0	3.54
Humanities	50.5	3.18
Education	24.3*	2.19*
Engineering	39.7*	1.41*
Business	47.6	3.57

SOURCE: Adapted from Phelan and Phelan 1983, p. 25.

NOTE: N = 2,533.

*Significant at the .05 level.

- More repetition (though this tends not to be a common job characteristic)
- More precise working standards

Underemployed workers also tend to prefer work that is less scientific, less humanitarian, more routine, and more business oriented.

Phelan and Phelan (ibid.) also found a noteworthy wage difference between men and women, with women earning 85 percent of the wages of men. This gap is less than the National differential (66 percent in 1984) and suggests that the wage gap between men and women is narrowing for recent labor market entrants and for the better educated, who were the primary subjects in the Phelans' study. Overall conclusions from their study are as follows:

- The study confirms previous findings on below skill utilization underemployment, especially that it is a widespread problem among college graduates.
- Income and objective underemployment are related to job satisfaction (r = .20 and -.28 respectively).
- Subjective underemployment bears an even higher correlation to job satisfaction (r = -.55)
- Common sense and case studies are confirmed: jobs predominating in physical demands and those without cognitive components are those with high underemployment.
- Men and women differ in many respects relative to underemployment.

A study by Rosenthal (1976) examined job prospects for those presumably at the educational pinnacle: graduates with doctorates (except medical and law degrees). Based on BLS forecasts and then-current data, Rosenthal predicted supply and demand for the period 1974-1985 as shown in table 9.

David Trivett (1977), accepting Rosenthal's projections, claims that they only reflect the demand in academe, and that the solution to the "Ph.D. Job Crisis"—the title of his paper—is a change in doctoral recipients' attitudes. He recommends that they look beyond academe to business and industry for jobs, increasing their view of job opportunities.

Trivett (1977) also recommends these institutional reforms:

- Universities must focus higher education on fields in demand.
- Admissions and program budgeting must be on a "manpower planning approach" rather than on students' preferences.
- The markets should be expanded for low-demand degrees.

He does not specify how the latter should be accomplished. Presumably, he is emphasizing the transferability of skills and increased use of internships and practica to increase the market for Ph.Ds.

TABLE 9

SUPPLY AND DEMAND FOR PH.D.'s, 1974 TO 1985

All Fields	Supply = 200 percent higher than demand
Engineering	Supply = 4 percent higher than demand
Chemistry	Supply = 25 percent higher than demand
Physics	Supply = 85 percent higher than demand
Life Sciences	Supply = 80 percent higher than demand
Social Sciences & Psychology	Supply = 200 percent higher than demand
Arts & Humanities	Supply = 500 percent higher than demand
Education	Supply = 300 percent higher than demand
Business & Commerce	Supply = 800 percent higher than demand

SOURCE: Adapted from Rosenthal 1976, pp. 48-49.

THE DETERMINANTS OF UNDEREMPLOYMENT

> And about the eleventh hour he went out and found others standing; and he said to them, "Why do you stand idle all day?" They said to him, "Because no one has hired us." Matt. 20:6-7

Various types of underemployment have different etiologies. Since all types represent an inability of the labor market to accommodate either the volume or the level of employment desired, those factors that decrease the availability and level of work contribute to it.

Technology

According to a theory described earlier, the impact of the application of technology to work is curvilinear—first, it increases the skills required, and eventually, it decreases the skill requirement (Bright 1958; Rumberger 1981, 1983b, 1984). This is the so-called "deskilling" effect of technology. Because the latest applications of technology, and *a fortiori*, those to come, are so flexible, few jobs seem immune from it. Computer word processors have built in spelling programs, so secretaries need not know how to spell; computerized decision programs in accounting, marketing, and manufacturing could eliminate middle managers; computer-aided design could eliminate engineers; and automated drafting could eliminate drafters. There seems no end to the list. What's more, automation is targeted increasingly at the middle- and top-skill levels of organizations; thus, a worker who earns $30,000 a year is replaced through automation rather than a worker who earns $15,000 a year. With increasing technological sophistication, the possibilities of replacing ever-higher skills increase. Examples of this include the following:

- The Boeing 747 is much more sophisticated than the Ford Trimotor and easier to pilot with computers and servo systems handling take-offs, navigation, and landings.
- Computer drafting requires no traditional drafting skills such as lettering, inking, or drawing
- User-friendly computers require no special language or skill to use them; some understand spoken commands.
- Silicon Valley has a few highly skilled engineers, programmers, and executives but many clerks, assemblers, and low level technicians.

Conclusion

Although the application of technology may reduce skill levels needed in the labor force, some evidence exists that just the opposite may occur. Birch (1983) and Stine (1983) argue that previous technological advances have produced products and services that ultimately increase employment and worker skill levels. Ultimately, automation will reduce the number and skill level of many, even

most jobs, but that situation may be far in the future. In the short term, automation will reduce skill levels and job numbers in areas where it is easily applied such as the printing, steel, and automobile industries. In other areas, skills and job opportunities will increase. For example, advanced technology will create a larger proportion of retired and leisure-seeking individuals and will create more and better jobs in personal service, information, and recreation. Morever, the emergence of new fields and products, now unforeseen, will create many high-skill jobs because of the advanced nature of the activities and products. We will experience increased frictional unemployment and part-time underemployment as workers leave mature industries and as emergent industries and services gear up during the transition.

Increasing Access to Education

The other side of underemployment is overeducation, a term with a disturbing connotation—society is not taking advantage of available skills (Freeman 1976). As college enrollments increase and more Americans seek social mobility through education, the ability of the job market to absorb these higher skilled workers will be severely tested. Presently, one quarter of the adult labor force ages 25-64 are college graduates—the largest number ever and double the proportion of 1960 (Young 1985). Women are an increasing percentage of graduate and undergraduate students; their increase in graduate programs has been especially noteworthy. Table 10 illustrates this trend.

Mismatches due to the lack of comprehensive, National planning for human resource needs are also a problem. When there was a shortage of teachers in the 1960s, colleges of education were flooded with students. A few years later, when engineering was not as promising, fewer students entered that field. Now, computer science is a magnet. The result is chronic over- and undersupply, partially due to poor planning, and partially due to the time lag between college entrance and graduation. With swift labor market developments, one can discover that a career target has moved, shrunk, or disappeared altogether. Ironically, although more education is good insurance against unemployment (see table 11), it may increase the risk for below skill-level underemployment.

TABLE 10

PERCENTAGE OF WOMEN IN VARIOUS UNIVERSITY DEGREE PROGRAMS

Degree program	1972 (in percentages)	1979 (in percentages)
BA	43.4	48.2
MA	40.1	49.1
Ph.D.	14.3	28.1
Professional (MD, DDS, LLB/JD DO, and so forth)	6.4	23.5

SOURCE: Adapted from U.S. Women's Bureau 1983, pp. 122, 123, 124, 125.

TABLE 11

UNEMPLOYMENT RATES FOR ADULTS BY EDUCATION LEVEL

	1983	1984
All Adults 25-64 Years	9.0	6.6
Adults with 8 Years or Less Schooling	15.5	11.6
Adults with 1-3 Years High School	16.1	12.4
Adults with 4 Years High School	10.0	7.2
Adults with 1-3 Years College	7.3	5.3
Adults with 4 Years or More College	3.5	2.7

SOURCE: U.S. Bureau of the Census 1985, p. 397.

Beyond issues of choosing a suitable and promising field, there is the factor of population dynamics that affect the number of college graduates in generational reverberations: baby boomers have an initial effect and again years later as their children mature to college age. Population dynamics also influence the labor market, creating, for example, the need for day-care workers, elementary school teachers, or gerontologists. Other effects are more subtle, influencing housing demand, recreation, travel, and medical practice.

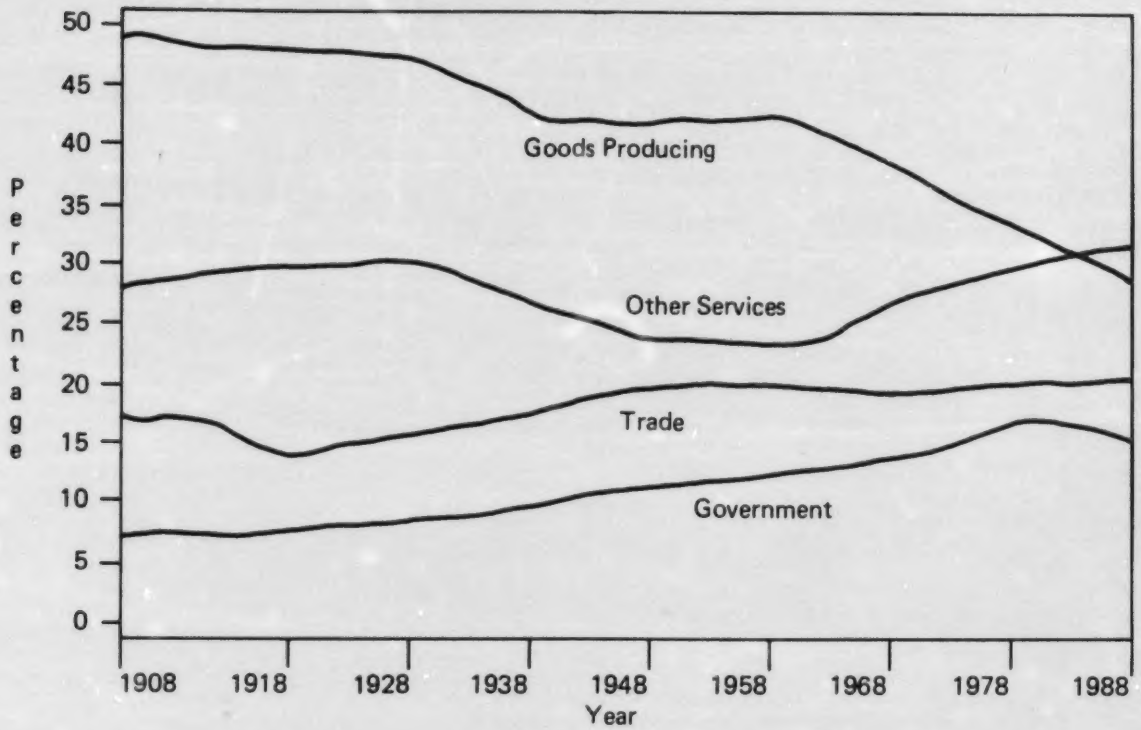
Conclusion

More education, which reduces the risk of unemployment and part-time underemployment, increases the risk of below skill-level underemployment. However, reduced Government aid to higher education, population dynamics, higher tuition costs, and the leveling off of women entering higher education, point to a stable but large proportion of college graduates entering the labor force at a rate of 1.6 million per year for the next 10 years. The expected number of jobs requiring college education, though, is predicted to be only 1.2 million per year (Sargent 1984).

Change from Manufacturing to Service Economy

As noted earlier a realignment of jobs has been occurring for some time; as manufacturing becomes automated and productivity increases, the proportion of jobs in that sector decreases. As a result, the entire growth of the labor force the past decade has been almost entirely in the service and trade area. Figure 6 shows this trend.

The service sector (including wholesale and retail trade) produces the lowest paying jobs and, thus, a larger share of underemployment than manufacturing. The other sector that was rising until 1970, government, has leveled off and has actually declined slightly over the past few years. Government tends to produce more high-paying jobs than any other sector.



SOURCE: Wegmann (1984)

Figure 6. Nonagricultural payroll employment by major industry division, 1908-1988.

Conclusion

The increase in the service and trade sector will continue, but the wages in that sector will continue to be low, contributing to low wage underemployment.

Trade Deficits

The United States has suffered increasingly serious trade deficits, amounting to about $100 billion in 1984, the worst year in history. Reliance on imported petrochemicals and a flood of imported products, especially automobiles from Japan, have contributed to this deficit. At the same time, the strong dollar has made our exports more costly, reducing their competitiveness in the international marketplace. The goods we export are technology intensive; the goods we import are labor intensive. Thus, even with a neutral trade balance, we lose jobs in a ratio of three to four (Wegmann 1984). About 30,000 jobs per billion dollars is an approximation of domestic industrial job creation. In 1983 we exported about 200 billion dollars, creating 6 million jobs here. We imported about $260 billion, creating 10.4 million jobs overseas. The greater the export volume and the greater the trade deficit, the more domestic jobs are lost. The only way to affect job creation

favorably is to have a trade surplus of more than 25 percent. However, that situation seems unlikely because of our declining oil and gas production, elimination of Japanese auto import restrictions, increased offshore sourcing of manufactured goods, and a strong dollar.

Conclusion

Trade deficits will continue, exerting downward pressure on wage settlements, especially in manufacturing, and causing a net loss of several million jobs each (more than 4 million in 1983). The result will be higher unemployment and part-time underemployment.

High Military Spending

The Reagan Administration believes that military spending is good for the economy, creating jobs and encouraging civilian research and development. Both statements are true, assuming the choice is between military spending and no spending. However, if the choice is between military spending and transfer payments, in equal amounts, the case for military spending dissolves.

Military spending produces about 28,000 jobs per $1 billion, compared to public transit, about 38,000 jobs; personal consumption, about 60,000 jobs; and educational services, about 75,000 jobs (DeGrasse 1983). Furthermore, the United States currently spends more than 7.5 percent of its gross domestic product on the military, nearly double that spent by other western industrialized nations and five times that of Japan (ibid.) This represents a higher proportion spent for the military than at the peak of either the Korean or Vietnam wars. DeGrasse also notes a high inverse correlation between military spending and productivity growth.

In addition, the evidence is pervasive that money spent directly in civilian research and development produces superior results and that much military technology is useless in the civilian marketplace (Lindsey 1983). And precisely because military spending does not produce consumer goods, and because it is financed by deficit spending, it tends to put inflationary pressure on the economy.

Conclusion

High military spending causes job loss in the economy and, in the long term, contributes to poor economic performance: low growth of the gross national product, inflation, unemployment, reduced technological improvement, and diversion of resources from civilized pursuits.

Reduced Retraining

Although most training expenditures occur in the private sector—estimated at $50 billion per year (Rosenberg 1983)—the Federal investment in retraining of workers has decreased by 70 percent over the past 5 years (U.S. Office of Management and Budget 1985). If technology increases and workers are displaced by technology, then public expenditures in the area of worker retraining ought to be rising, not falling. This is especially true for those at risk of part-time and low wage underemployment: youth, minorities, and women.

Conclusion

Reductions in Federal investment in worker retraining will create increased unemployment and attendant underemployment.

Increased Labor Force Participation by Women

Though the trend of increased labor force participation by women is leveling off slightly, the increase—from 40 percent in 1970 to nearly 60 percent in 1983—is the most remarkable development in the recent history of the American labor force (League of Women Voters Educational Fund 1984). However on the average, women still earn significantly less than men. The current figure is 66 percent,* up from 59 percent about 15 years ago. (U.S. Bureau of the Census 1985) Significantly, women college graduates entering the work force in traditional male occupations are receiving about equal pay with men (Phelan and Phelan 1983). In addition, the female wage gap is less for younger women (DeBoer and Seeborg 1984). The rest of the picture, though, is bleak for women.

- Two out of three low income adults were women in 1983; 18 percent of those women who headed households worked full time; another 18 percent worked part time. Comparable figures for 1975 are 15 percent and 21 percent (U.S. Bureau of the Census 1985)

- The job training program designed to assist low income women on Aid for Dependent Children is slated for elimination (U.S. Office of Management and Budget 1985).

- In April 1985, the U.S. Civil Rights Commission rejected the concept of "comparable pay for comparable work" and advised that the Federal Government and the courts not pursue this as a method of redressing pay inequities.

- Policy changes and budget cutbacks have undermined the impact of Affirmative Action and Presidential Order 11246, which requires Federal contractors to eliminate underrepresentation of minorities and women they employ (League of Women Voters Educational Fund 1984).

- Segregation in vocational education was still rampant in 1980, despite the 1976 Vocational Education Amendments. Women comprised 87 percent of those in nursing, 92 percent in cosmetology, and 92 percent in secretarial preparation, but only 4 percent in carpentry, 3 percent in electricity, and 10 percent in electronics (ibid.).

- Although women are increasing their numbers in high-tech occupations, they still lag behind men. In fact, 21.5 percent of male high school seniors in 1980-1981 planned to major in engineering, compared to only 3.2 percent of females, and three times as many males as females planned to enter the physical sciences (ibid.).

Conclusion

Underemployment among women will continue to be a serious problem for many years but especially in the near future due to loss of Federal leadership and enforcement in affirmative

*There is some disparity in this figure from source to source: the female income of year-round, full-time workers was put at 60.2 percent of the male income in 1981 (U.S. Women's Bureau 1983).

action and equal rights, the cutting and elimination of job training programs, and the continuing entry of a majority of women into traditionally female, and therefore, low paying, occupations.

Worldwide Sourcing and International Market Growth

The complex issue of worldwide sourcing and international market growth involves numerous interlocking factors, including the rise of multinational corporations, capital disinvestment (closing and relocation of plants and headquarters in cheaper and often foreign locations), wide disparity in worker earnings from one region to another, and new international competitors such as Korea, Japan, Taiwan, India, Hong Kong, and European countries. Even if assembly facilities remain in the United States, subassemblies and components are built overseas and shipped here for final manufacture, that is, "outsourced." Consequently, a truck engine is built in Brazil, its transmission in Japan, and its plastic parts molded in Mexico, although it is assembled in the United States.

The consequence seems to be the weakening or the demise and movement overseas of numerous, basic industries (*Business Week* Team 1982). American workers have made wage concessions, and in some cases, have worked part time; in certain industries, plant closings have become endemic so that real wages have been declining.

Guarded Conclusion

A flood of cheap imports, outsourcing, and capital disinvestment seriously jeopardize the earnings of American workers in goods production. In the long run, increasing automation and accompanying enhanced productivity should reduce the threat of foreign competition.

Low Productivity Growth

Numerous explanations of the United States' poor performance in respect to productivity have been made. They range from a weakened work ethic to the chronic failure of American managers to make long-term plans and to be overconcerned with the next quarterly statement, failure of Americans to save their income, excessive taxation that discourages investment, insufficient expenditure on research and development, and excessive military spending.

The work ethic is stronger than ever before according to Daniel Yankelovich (1982). Despite the commitment to excellence, most workers could do a better job, but believed that if they did, they wouldn't be compensated. Perhaps managers should assume some of the blame for this attitude.

The failure to take a long-range view, to look only at the next quarterly statement, is a charge made by Harvard researchers Hayes and Abernathy (1980). They blame this attitude on the rise into management of accountants who focus on earnings rather than on excellent products or services, and lawyers, who focus on acquisitions and mergers. Once again, poor management.

Excessive taxation does not seem to be a cause of low productivity, since the United States has the lowest individual and corporate tax burden of any Western industrialized nation.

Insufficient expenditure on research and development is indeed a contributor to poor productivity increases and is related to excessive military spending. The relationship between the military

share of research and development and productivity growth seems linear: as the former goes up, the latter goes down. The diversion of so many scientists and engineers to war projects inevitably takes its toll in diminished civilian productivity (DeGrasse 1983).

Conclusion

Both the military buildup, and the American management style, concentrating on short-turn profits and acquisitions, will continue and will have a negative effect on productivity. Another decade of poor productivity improvement and, therefore, relatively high levels of unemployment and underemployment is inevitable.

Summary

All factors considered point to underemployment as a continuing problem as far as we can see into the future. Prominent among the factors are the following:

- Deskilling effects of automation
- Trade deficits and increasing foreign competition
- High military spending and diversion of research and development to war projects
- Reduced Federal spending for retraining and upgrading of workers
- Reduced Federal leadership and enforcement in equal rights areas
- Increased participation of women in the labor force
- Declining union membership and increasing economic leverage of multinational corporations over workers.

The picture is discouraging but some initiatives that could alleviate the problem may be undertaken to help underemployed individuals both at the policy and service levels.

CAREER ASSISTANCE FOR THE UNDEREMPLOYED

Each variety of underemployment calls for its own special solutions. The college graduate employed below skill level is quite differently underemployed than the secretary who earns less than a janitor. The problems of the chronically part-time employed or the seasonal worker are also different than those of the other two groups.

Below Skill-Level Underemployment

Below skill-level underemployment is the most difficult kind of underemployment to remedy, and two social trends tend to exacerbate the problem: (1) increasing application of automation, which in the long run deskills jobs, and (2) increasing levels of college enrollment, which increases the pool of skills available. But many improvements in our career preparation and entry system could reduce skill mismatch.

Enhanced Labor Market Information and Projections

Whatever the difficulties of the arcane and perilous endeavor of providing labor market information, this country should have the best that money can buy. Wise choices in human resource utilization depend upon complete and reliable information. Wassily Leontief (1982) cites Austria as a leader in making national industrial projections drawn from the country's "bookkeeping system." These projections affect decisions for specific industries regarding human resources, investments, expansion, and so forth. "Only the governmental and scientific agencies of Austria have produced a systematic assessment of the prospective consequences of the present revolution in laborsaving technology in a modern industrial economy and society" (ibid., p. 201). Experts in this country are uncertain about the effects of technology, because no National, detailed study of the problem has been undertaken. Such research is sorely needed. Why can't the United States, like Austria, develop "instead of unconditional prognostications—of either jubilation or horror—projections in the form of alternative scenarios . . . to analyze in quantitative terms the combined effects of economic, social and educational policy measures" (Hertha Firnberg quoted in Leontief 1982, p. 203).

One encouraging U.S. development has been the establishment of the National Occupational Information Coordinating Committee (NOICC), which has funded computer-based information systems and spurred the establishment of State Occupational Information Coordinating Committees (SOICCs) in all 50 States, the District of Columbia, Puerto Rico, and outlying territories. With funding from the U.S. Departments of Labor and Defense, the NOICC also sponsored an Improve Career Decision Making project to train school counselors in the sources and usage of labor market information (Moss and Hailey 1983). Under the NOICC-SOICC organizational framework, a labor market information system reflecting National trends, yet sensitive to local conditions, may at last be emerging in an appropriately modern, i.e., computerized form.

Public Employment Offices Serving the Skilled and Disadvantaged

In the National interest, human resources should not be wasted. Therefore, the public job service should be beefed up, not cut back as in the past several years, and its operations should be independent from the unemployment insurance function. Special facilities should be made available to highly skilled workers, including professionals, so that the widest possible job search and best utilization of the Nation's skills will be ensured. This emphasis should be in addition to services for the disadvantaged and unskilled. The National system of job service offices should not be regarded as a kind of social welfare service, but rather as an organization with unique and valuable career services available to every American resident, skilled or unskilled, employed or unemployed, educated or uneducated (Johnson 1973). The diversion of employment service personnel to staff unemployment insurance claims activities, so marked in times of high unemployment, is counterproductive. During those times, staff are most needed to provide job search, career advisement, and counseling services. Experiments in self-selection and referral, computerized job matching, and computer-assisted counseling are laudable, but the time has come for these kinds of technological and systems advances to be implemented nationally. A National automated skills bank and referral service is technologically feasible and should be undertaken immediately.

Also, although private employment offices can play and have played a role in placing the skilled and professional worker, a public job service is necessary in this area as justified by the following:

- No private placement service is primarily concerned with the National interest; placement services are properly concerned with good service to employers, which will lead to profits. However, what is good, for example, for General Motors isn't necessarily good for the Nation. Only a publicly financed and monitored entity with National scope and resources can carry out a National manpower policy and move effectively toward National manpower goals.

- Private sector employment services have a reputation for pressuring clients, for indifference to counseling needs of clients, and for sharp financial dealings with both employers and jobseekers. Many do not engage in these practices although widespread abuses have been reported.

Finally, the federal and state job service system must strengthen its counseling and career assistance functions. In the past 5 years, budget cuts, staff cuts, and staff reassignments have gutted this essential public service. In an era of unprecedented technological change and employment upheaval, public career counseling services should not be reduced. The Job Service, incidentally, is the only provider of career counseling to the general public. Every State Job Service reports that counseling staff are either completely eliminated or drastically reduced. For example, the National office of the U.S. Department of Labor's Employment and Training Administration serves as a stark example of the counseling cuts; once staffed with 20 counseling and testing specialists, only 1 now remains according to John Hawk, the sole survivor (meeting with author, 17 March 1984). The Job Service staff have been cut from 30,000 staff in 1981 to less than 14,000 in 1983.

Changes in the Relationship of Schooling to Work

Education has become handmaiden to career. In a scathing analysis of American education in a modern capitalist society, Carter (1975) focuses on the contradictions inherent in an educational

system that prepares students for the existing labor market. Taking a Marxian viewpoint that "institutions and structural relations of the labor process are the center of gravity of the entire social structure" (p. 1), Carter points out contradictions in the workplace: (1) worker needs are *subordinate* to the profit requirements of capital, and (2) worker needs are *opposed* to the profit requirement as a result of the wage labor arrangement. The worker's interest lies in minimizing output to save energy for nonwork activities. Approaches to overcoming these contradictions include:

- Close supervision and threat of dismissal (This tactic only works in the secondary labor market, where skills are minimal. In the primary labor market other structures have arisen to mediate the contradictory interests of labor and capital.)
- Hierarchial arrangement of jobs so that upper ones are more desirable than lower ones (more autonomy, less concentration)
- Linkage of power, income, and status to profitability, thus securing commitment to company profits

Schools attempt to prepare students for the worker role. In secondary schools, students are prepared for routine jobs: the teacher is the boss and assigns tasks and supervises. Students relate to one another as co-workers. Respect for authority and expertise is inculcated. Rote learning is emphasized; critical thinking, neglected. In postsecondary education, preparation for nonroutine work begins. Camaraderie, higher expectations, and more freedom characterize this level of schooling. Convergent thinking is encouraged through the reduction of complex issues to formulae. Critical intelligence is developed (but not of the system). The contradictions are:

- Too many individuals are prepared for existing nonroutine jobs. Especially when the economy is in a turn down, schools act as reservoirs, increasing student credentials, thus increasing the problem.
- Students are taught conflicting information about—
  - Materialism versus morality (e.g., individual honor over money, but profits over all else);
  - Competition versus cooperation (e.g., be a good team player and you'll get ahead individually); and
  - Egotism versus sociality (e.g., help others, but defeat them).

Carter is strong on clarifying problems, weak on suggesting solutions. He recommends (1) a more democratic workplace, with workers participating in the decisions; (2) a different wage contract system; (3) school reform including less work oriented goals and practices; and (4) higher education for fewer students to combat the excess of nonroutine candidates for the dwindling non-routine jobs.

Carter's position is not unfounded. In *Work In America* (O'Toole et al. 1973) the Special Task Force to The Secretary of Health, Education, and Welfare found similar contradictions, attributing worker dissatisfaction to lingering Taylorism in American management practice and to fewer opportunities to be one's own boss. More recently, a survey of 1980 college graduates (Braddock and Hecker 1984) showed that in many fields such as social sciences, and liberal arts, individuals were not using the skills they had acquired in college. Table 12 shows this, although some

TABLE 12

HOW FREQUENTLY DID GRADUATES USE THE COURSE CONTENT OF THEIR MAJOR FIELD?

Field	Almost Always	Frequently	Sometimes	Rarely	Never
All Graduates	27	25	23	15	10
Accounting	47	26	17	7	4
Agriculture and Natural Resources	19	36	22	10	13
Art	23	30	6	14	27
Biological Sciences	24	16	25	16	19
Business and Mangement (except accounting)	11	28	35	20	7
Chemistry	51	12	17	11	9
Communications	20	30	26	14	10
Computer and Information Science	43	32	20	3	2
Economics	4	18	30	33	15
Education (except physical education)	43	25	18	8	7
Engineering	29	28	31	11	2
English	16	23	26	23	12
History	8	5	19	31	37
Home Economics	34	25	22	0	20
Mathematics	25	26	30	13	6
Nursing	69	20	7	3	0
Physical Education	36	19	17	14	14
Political Science	1	18	18	29	34
Psychology	10	26	35	22	6
Sociology	0	26	33	24	16

SOURCE: Braddock and Hecker 1984, p. 15.

occupations, such as nursing, education, and computer science, were more demanding of skills than others. College curricula could be modified to offer a better match with job skills.

This is an endlessly debated issue in academe, where the professional courses compete with general liberal education courses, and one that will not be settled here. Clearly, many students want coursework that gives them skills they will use directly on the job. The reformation of education to eliminate Carter's contradictions will be very difficult, involving a cultural paradigm shift running counter to current trends toward increased "vocationalization" of education.

Part-time Underemployment

Part-time underemployment is a problem of inadequate volume of employment. Therefore, efforts to combat it should focus on increasing the total number of jobs, because as unemployment drops, so does part-time underemployment. Furthermore, since many part-time workers are marginally skilled, efforts to improve skill levels can enhance those workers' job prospects. On the other hand, employers need incentives to expand their work force, rather than to use overtime to meet increased work requirements. Finally, improved retirement benefits can reduce the need for supplemental part-time work among the elderly.

National Commitment to Full Employment

In the 1970s, there was a great deal of discussion about full employment and even National legislative initiatives toward this goal. (The Humphrey-Hawkins Full Employment Bill was the last of this idea.) Recently, the commitment to full employment seems to have gone aglimmer, especially as a Federal initiative. The role of the Federal Government is currently being diminished, especially in human services, and chances for the development of such concepts as government-as-employer-of-last-resort, seriously debated just a few years ago, are virtually nil. National fiscal policy is directed more toward controlling inflation, with the result that high levels of unemployment (and consequently, part-time underemployment) are likely to persist. Among industrialized nations, only the United States, Canada, and Great Britain seem willing to accept this as the price for lowered inflation, assuming that the Phillips curve, which describes an inverse correlation between inflation and unemployment, is inviolable. There have been periods when both factors were low and when both were high, but the conventional wisdom is that neither will be a long-term situation. There will be either high unemployment and low inflation or vice versa. After a strong recovery from a disastrous recession, the base unemployment level now is perhaps 7-7.5 percent, with another 5 percent underemployed (and perhaps 2 percent discouraged). This indicates that 14 percent, or about 15 million workers, cannot be accommodated in the current labor force. Awareness of the magnitude of this as a social problem and commitment to its solution through an active labor market policy at the Federal level is recommended.

Job Training and Upgrading

Programs to assist the unemployed and underemployed have been funded by the Federal Government since the early 1960s. During the two decades of their existence a great deal has been learned about how to deliver employment and training assistance to these groups. The Manpower Development and Training Act (MDTA), Comprehensive Employment and Training Act (CETA), Work Incentive Program (WIN), Job Corps, and other employability programs have proven to be modest investments in the development of our work force. Even at the height of Federal investment

in these programs, the United States lagged far behind other industrialized nations in such spending. In 1976, for instance, Federal spending on employment and training programs was less than half that of West Germany as a proportion of gross national product and the lowest of any nation that belonged to the Organization for Economic Cooperation and Development (OECD). Since then, U.S. spending has decreased precipitously, from more than $11 billion in 1978 to $5.5 billion in 1983, to a proposed less than $2 billion in 1986 (U.S. Office of Management and Budget 1978, 1983, 1985). Of particular impact in these reductions was the substitution of a much smaller Job Training Partnership Act (JTPA) for the expired Comprehensive Employment and Training Act in 1983. The recommended elimination of the Job Corps and the Work Incentive Program will further erode job training opportunities for unemployed and underemployed youth and welfare recipients. Job Corps, for example, termed ineffective and unnecessary and scheduled for phaseout in fiscal year 1986, is actually a cost-effective program, producing benefits exceeding costs by 45 percent according to one careful analysis (Maller et al. 1980), and its elimination will cost society over $120 million in lost productivity, increased crime, and welfare dependency. Another $123 million social cost was incurred with the reduction of the program from 44,000 in 1981 to 22,000 enrollments in 1983.

Change in Attitudes about Employment

Robert Theobald (1983) has proposed a postindustrial-era value realignment in which the United States' ideal of a full employment economy and attitude toward work as individuals would undergo radical change. He explains that common people were convinced by an industrializing society that hard work was necessary for one's self-esteem and a *summum bonum* in and of itself. Workers initially put in 16 hours per day, when the new technology was still labor intensive. As mechanization progressed, the demand for long hours declined. Thus, in the mid-19th century, 40 percent of a worker's entire life was consumed by work, leaving the balance for activities such as childhood, education, recreation, and sleep; now only 14 percent of our lives is devoted to work, and the proportion is dropping.

The temporary solution of increased demand to support full employment cannot last. Declining personal income indicates that the system is beginning to malfunction. Beyond that, the assumption that everyone values a job in itself reflects the view of a few highly skilled, elite workaholics. In a communications-centered era, the model of full employment and job as life's center are anachronisms carried over from the industrial era. Maintaining the myth of full employment when the reality of unemployment becomes dominant is dangerous. Fortunately, some workers already view a job just as a means to earn money, rather than the measure of their worth. Theobald suggests new work-life patterns that better suit the postindustrial era:

- Worker recycling into new jobs, instead of the current train-work-retire cycle. The cycle would be train-work-retrain-new work-retrain-different work. Paid retraining sabbaticals would keep workers' skills current.
- Adolescence, a recent invention to prevent entry into the overcrowded labor market would be spent in public service, learning by doing rather than by sitting and listening.
- Job sharing would be the mode rather than the exception.
- Older people, instead of vegetating in retirement ghettos, might teach young apprentices their skills.

- In a communications era, parenting may become a full-time paid career during a significant proportion of one's life.

Thus "work," which has been the primary way of distributing material benefits and social status, will be seen quite differently and certainly not as synonomous with "job." One's life work may never involve having a job. This approach represents quite the opposite of the previous suggestion, which advocated a return to a commitment to full employment. Perhaps Theobald's position could be viewed as a long-run solution, since it involves radical change in a deeply held and pervasive social attitude and an entrenched economic system. Such a change will not come overnight, especially since the current attitudes about work are mixed with religious and moral beliefs.

Assistance for the Part-time Underemployed

The problem of part-time underemployment should yield to techniques that have been developed to assist the unemployed. A number of programs have enjoyed success depending upon the targeted service population, the program mix and quality, and the state of the labor market. Since the part-time underemployed have the necessary skills to perform in a job but have not located a full-time job in their field, one of the following two strategies may be undertaken: job search skill training or job development.

Job Search Skill Training

Job search skill training includes the following general components, though different programs emphasize or even omit some of these components.

- **Job skill analysis and clarification.** Through a review of training and experience, the clients are assisted to develop various skill statements about themselves and to understand the relationship and transferability of work skills.

- **Self-management skill awareness.** Self-management skills enable an individual to mobilize job skills on the job. Self-management skills include such social and personal skills as decision-making ability, assertiveness, poise, self-respect, versatility, and orderliness. They may be conceptualized as one's good traits or as behaviors that make one a desirable employee.

- **Job search techniques training.** Job search training covers resume and application writing, job interviewing, employment testing, and organizing techniques for learning about existing job openings.

- **Job campaigning and support.** Clients are trained in ferreting out job openings, setting up a job search effort and provided with social encouragement in this effort (Azrin and Besalel 1980; Bolles 1978; Johnson 1982; Mangum 1982).

There are several models of job search skill training enumerated by Johnson (1982), any of which might be applicable to the underemployed. These models include the following:

- **The employment service model.** The employment service model was originated to assist job applicants of various State Job Service offices. It is characterized by brief length—often 8 hours or less a week and not more than 15 hours total involvement—and an informational lecture-discussion format with little hands-on practice or social support. Placement success varies widely.

- **Job clubs.** Nathan Azrin applied behavioristic principles to the job finding problem through a highly structured curriculum, delivered in 25-30 hours for 1 or 2 weeks followed by an open ended period of supervised job search activity. Success in placing Job Club participants is 80 percent, according to one study (Azrin and Besalel 1980) and the model has been successfully used with laid-off auto workers (Ramey 1985).

- **Self-directed placement.** Self-directed placement is the title applied to a 4-week, full-time program developed by Charles Hoffman, who melded private employment agency approaches into a high energy motivational group process. The first week involves classroom training followed by supervised job search. Members use the telephone to find openings and apply sales techniques to gain acceptance from employers. Placement rates are reported from 50 to 92 percent.

- **Job factory.** This self-placement model reflects the manufacturing background of its cofounder, Bert Cullen (the other founder, Joe Fisher, was a CETA program director). The idea underlying the job factory model was to meet a perceived need of the unemployed to think of themselves as workers by having the job search simulate a factory job with time clocks, a foreman, and a full 8-hour day, over 4 weeks. The successful placement rate is claimed to be 66 percent. This approach does not appear suitable for the underemployed who do not generally need work socialization.

- **Individual self-help.** A fifth approach, that of individualized or independent job search skills training, is added to Johnson's list. To assist with individualized or independent job searches, a number of self-help books have been written, beginning with these three: *What Color is Your Parachute?* (Bolles 1972), *Where Do I Go from Here with My Life?* (Crystal and Bolles 1974), and *Three Boxes of Life* (Bolles 1978). Many other books and manuals have been published; among the better ones are *The Complete Job Search Handbook* (Figler 1979), *How to Beat the Employment Game* (Noer 1975), *Guerrilla Tactics in the Job Market* (Jackson 1978), and *The Work Book* (Farr, Gaither, and Pickrell 1983). There is no way of knowing how effective these manuals have been, but their popularity suggests that many have been helpful. The problem with individual or independent job search is that it is an ego-deflating activity and difficult to sustain without the peer support that job search groups offer.

Job Development

Job development is the older and more traditional approach to assisting the underemployed in which a placement specialist takes a case load approach and mediates job interviews with prospective employers, using knowledge about the employer's needs and the client's abilities to make a suitable match. Interview techniques, coaching, and support are provided on a one-to-one basis. This approach was used with success in MDTA, CETA, WIN, and Job Corps programs and while expensive, has much to recommend it. Unfortunately, the task of the job developer is difficult, and burnout rates were high. Moreover, the Government has shown an increasing reluctance to fund programs of employment assistance to the unemployed, so that individualized job development for the underemployed seems an unlikely prospect in the public Job Service system.

Assistance for Low Earnings Underemployed

Career assistance for the low wage underemployed is somewhat more complex. These workers, by virtue of poor education and lack of skills, have been relegated to the lowest paying

job sector. Therefore, traditional methods of basic education and skill training developed in the 1960s under MDTA and perfected under CETA in the 1970s are reasonable approaches to this problem. The difficulties encountered in choosing an occupational field to train for and in staffing special facilities to carry out the training might be overcome through the use of existing vocational education facilities and adult education programs at secondary and community college levels. The program should also include the possibility of a regular college education to expand the range of potential occupations or to extend vocational education to include more advanced occupations. Such a program would focus upon the disadvantaged, minorities, women, and youth, since they tend to form the majority of low wage underemployed. Supportive services (day care, medical/legal assistance, personal counseling), employability skills training, career counseling, and job development assistance would complement the basic education (where needed) and skill training components. A program of the scope necessary to serve the unemployed, as well as the underemployed, would include a National employment and training program and expanded vocational education and vocational rehabilitation services—and would have cost about $8 billion in 1976 (Mangum 1976).

Because low wage underemployment results from the limited mobility of a worker or from societal bias, as with many occupations dominated by women, individual assistance is problematical. Mangum (ibid.) suggested midcareer upgrading efforts supported by unions, employers, and schools. To some extent this strategy would assist the low earner to move into a better paying career. However, many low wage underemployed workers are employed in marginal occupations such as farm work, fast-foods, and janitorial work. These workers are unlikely to be affected by voluntary upgrading by employers, who at best view them as disposable or passing through and at worst exploit them with inhumane working conditions and substandard wages. The answers to low-wage underemployment are in National and local laws to protect workers, specially targeted employability programs, and for some, "comparable worth" legislation or policy (Treiman and Hartman 1981).

Comparable Worth

Comparable worth is a complex and controversial issue, fraught with misconceptions. Much of the debate centers around the male-female wage gap. This gap measured on an hourly basis amounts to 33 percent: women earned 67 percent of what males earned in 1978. This figure reflects virtually no change since the first data were gathered in 1967 (Quinn 1985). This gap is usually quoted on a weekly rather than hourly basis. Since full-time working men average almost 10 percent more hours per week than women, the gap is often estimated to be 35-40 percent. When explanatory variables are measured, the gap shrinks but never disappears. Treiman and Hartman (1981) summarized 7 major studies that showed residual gaps of 7-30 percent. After adjusting for skill, experience, and career commitment, the mean gap is about 12-15 percent when women work in traditionally male occupations. If this residual gap cannot be explained, then discrimination exists. However, experts disagree on this point. Some say that women are not discriminated against in salaries, others say they are, claiming women are in positions where they are less likely to advance or be promoted.

The United States is not likely to have comparable worth legislation, but in 1980, 13 other countries had such legislation with certain variations. Comparable worth legislation is an extension of laws requiring equal pay for equal work, making it illegal to pay a woman less than a man for doing the same job. Current laws do not clearly prohibit lower pay scales for work done predominantly by women, as long as men doing the same work are also paid less. The result is that painters (often male) may earn more than secretaries (often female) (see table 13). In 1981, in the

Gunther versus Washington County case the U.S. Supreme Court held that Title VII of the Civil Rights Act prohibits sex-based wage discrimination where jobs are similar though not identical (Beatty and Beatty 1982). The decision, however, was complex and, while it gives comparable worth advocates hope, the issue is still somewhat in judicial limbo (Knobloch 1983). Table 13 shows results from three job evaluation surveys that indicate substantial male-female wage differences in different occupations evaluated as having similar skill levels.

A growing number of States have applied pay equity in their State job systems. This idea appears to be gaining popularity despite the considerable opposition, including that of the U.S. Commission on Civil Rights. Implementation of this concept will do much to reduce low-wage underemployment among women. Failing such legal and *de facto* changes, wage inequity will probably not resolve itself. Using three scenarios, one researcher projecting male and female wages for 1990 predicts unadjusted earnings gaps of 39-45 percent for women workers ages 39-54 (Smith 1979).

TABLE 13

COMPARABLE JOBS: RESULTS FROM THREE JOB EVALUATION SURVEYS

Job Title	Monthly Salary	Number of Points
Minnesota		
Registered nurse (F)	$1,723	275
Vocational ed. teacher (M)	2,260	275
Typing pool supervisor (F)	1,373	199
Painter (M)	1,707	185
San Jose, California		
Senior legal secretary (F)	1,330	226
Senior carpenter (M)	2,080	226
Senior librarian (F)	1,796	493
Senior chemist (M)	2,238	493
Washington State		
Licensed practical nurse (F)	1,030	173
Correctional Officer (M)	1,436	173
Secretary (F)	1,122	197
Maintenance carpenter (M)	1,707	197

SOURCE: National Committee on Pay Equity (1983).

NOTE: Points are based on evaluations of such job characteristics as skill and responsibility.

Industry-Union Worker Upgrading: A Model for Assisting the Underemployed

One of the most encouraging developments in collective bargaining in recent years is the growing trend to include employee training in union agreements. In the last American Federation of Labor-Congress of Industrial Organizations (AFL-CIO) comparison of 100 major contracts, 75 contained provisions relating to technological change, transfer of work, or plant closing. Of these, 21 provided training rights to employees for other jobs (AFL-CIO 1984). Smokestack industries—auto, steel, agricultural equipment, and rubber—predominated in these provisions, but companies faced with deregulatory change (the Bell system) and with offshore competition (footwear and electronics) also included retraining provisions. These provisions vary widely in funding, training delivery systems, articulation with Government programs, and administration. Nevertheless, several clearcut directions have emerged:

- Comprehensive programs are being offered that go beyond training and placement to include human services dealing with wider aspects of dislocation such as personal counseling, stress management, and financial advisement.

- Articulation of private sector and government and community services is present. Thus JTPA, community educational resources, and local human service providers are often combined in offering services.

- Sophisticated services targeted specifically to adults and tailored to particular populations are being delivered.

- Union-management cooperation and joint efforts characterize these programs. Often, joint funding and program administration is specified (Savoie 1985).

Unquestionably one of the National leaders in offering this type of program is the Ford Motor Company in conjunction with the United Auto Workers (UAW). The UAW-Ford Employee Development and Training Program is a model for dealing with the underemployed worker and the displaced worker. The program operates through three geographically dispersed centers in the Detroit metropolitan area, offering a wide variety of life/career development services to current and laid-off Ford employees. Among the services offered to active employees are these:

- **Education and Training Assistance Plan**—National program that provides prepaid tuition and compulsory fees (up to a maximum of $1,500 per year) for formal education courses at approved educational institutions

- **Personal Development Assistance Plan**—provides prepaid special personal development education and training opportunities for individuals and groups, including certified noncredit or nondegree courses, covering topics such as communication skills, computer literacy, motivation, and goal setting

- **Life and Educational Planning Program**—provides individual or group opportunities to explore personal strengths, interests, and ways to increase personal potential through education, training, and other developmental opportunities

- **Basic Skills Enhancement Program**—provides educational counseling and learning opportunities in general educational development (GED), high school completion, and English-as-a-second language; training is self-paced and generally provided in the plant

- **College and University Options Program**—will provide tailored college-level business and technical education programs designed to meet personal and career development needs of employees; training can be provided in the plant and credit can be received for certain work experience

- **Targeted Education, Training, or Counseling Projects**—provides specific education, technical skills enhancement training, or counseling for the needs of a particular location or segment of the work force

- **Successful Retirement Planning Program**—provides preretirement planning sessions to assist senior employees in making the transition to retirement; sessions include presentations on insurance and pension benefits, legal and financial planning, leisure activities, and health awareness.

In addition, the UAW-Ford program offers laid-off Ford employees a variety of career services:

- **National Vocational Retraining Assistance Plan**—provides laid-off employees with prepaid tuition and compulsory fees assistance (up to $5,000 maximum depending upon employee seniority) for self-selected formal education and training at approved educational institutions

- **Targeted Vocational Retraining Projects**—provides laid-off employees with prepaid technical skills training in high-demand occupations identified as having job opportunities

- **Vocational Plans and Interest Surveys**—provides information on laid-off employee career plans and interests to assist joint local employee development and training committees in planning and developing local activities

- **Career Day Conferences**—provides laid-off employees with information about services available under the UAW-Ford Employee Development and Training Program and local community resources

- **Career Counseling and Guidance**—provides laid-off employees with assistance in developing and achieving personal and career goals through group classes and workshops

- **Job Search Skills Training**—provides laid-off employees with self- directed job hunting skills, labor market information, interviewing skills, and professional job search assistance

- **Basic Skills Enhancement**—provides assistance to laid-off employees in improving or "brushing up" on basic skills in math, language, and communication; preparing for GED tests; or completing requirements for high school diplomas

- **Relocation Assistance**—provides loans to assist laid-off employees transferring to new job opportunities more than 50 miles from their former work location

An example of a comprehensive and sophisticated program that is currently being applied to a mixed group of employed, underemployed, and unemployed workers, the UAW-Ford program is a promising development in union-management-government collaboration (UAW-Ford National Development and Training Center 1985).

Service Principles Related to Populations at Risk of Underemployment

Surveying the literature has served to strengthen and clarify a number of convictions about helping others in this field. While there is no single best way to help every person to develop career awareness and skills, a number of basic ideas assert themselves again and again.

- Programs are not delivered in the abstract, but by people in relationship with other people. Therefore, highly developed human relations skills and career development knowledge must be characteristic of the service delivery staff. Good will alone is not enough.

- Assisting minorities, women, and the disadvantaged is more difficult than assisting other groups because their work and career patterns are more complex. Their career paths often have more obstacles than the middle-class white males, around whom career theories were developed.

- Awareness of and respect for the culture and world view of the clientele is essential to the success of the service. The nature and manner of offering help should correspond with the culture and values of those being helped.

- Cultural similarity between client and service providers is an advantage in gaining rapport and information and in influencing clients. Cultural dissimilarity may foster the ability to cope with certain work-related issues such as relating to unfamiliar supervisors or co-workers.

- Effective help focuses on strengths and abilities; it is also problem centered, identifying problems as goals to be attained and arranges for feedback on performance in attaining goals.

- Individualized and flexible programming and including the client in planning the services are preferred.

- Small group interaction, skillfully facilitated, should be a major method of delivering services.

- High technology can and should be used for services for which it is suited: computerized job and educational information, assessment, and decision making enhance other services.

- Programs that utilize available community resources—both educational and supportive services—will be more effective than those that do not.

- Effective functioning in the work arena is such a basic skill that it should be taught along with other life skills—a preventative approach is favored. These skills can be learned at any time in life, and in the National interest, programs to acquire or improve these skills should be widely available and free to all.

WHITHER UNDEREMPLOYMENT?

> The microprocessor has finally repealed the labor theory of value; there is no possibility now of maintaining the fiction that human beings can be paid in terms of their labor. The link between jobs and income has been broken. Henderson 1975

There is a long history of authors who have attempted to pierce the veil of the future—some with unbounded optimism, others with foreboding. Jules Verne typifies the former and Thomas Malthus, the latter. They were best selling authors in their day, just as Toffler and Naisbitt are today. Although speculating about the future is perilous, two scenarios about the future with special relevance to underemployment are especially intriguing.

Scenario 1: Vonnegut

The first is the arresting vision of Kurt Vonnegut revealed in *Player Piano*, written in 1952. Vonnegut foresees a technocracy headed by engineers and managers who oversee a completely automated production system that needs no workers. Those who do work in goods production have doctorates, including the hero's secretary—perhaps the ultimate example of underemployment. The great masses of people who had been displaced from their jobs by the automated factories idle their lives away in make-work jobs with the Government (the employer of last resort) either in the Army or in the Reconstruction and Reclamation Corps. Other than the engineers and managers who oversee and maintain the factories, only a few others—police and firefighters, physicians, bartenders, athletes, dentists, cab drivers, and skilled artisans—actually hold jobs. Machines cannot economically replace their activities. Youngsters take the General Classification Test at age 18, and only an elite few are allowed to enter college; the rest go into the Army or the Reeks and Wrecks Corps. All economic, social, and political power is concentrated in the Organization (The National Industrial Commercial, Communications, Food-stuffs, and Resources Board), a giant monopoly that in turn is under the guidance of a monstrous computer, EPICAC XIV. The ultimate attrition of farm workers has occurred with 100 men and millions of dollars worth of equipment doing all the farming in the nation.

In Vonnegut's vision displaced workers are dissatisfied with a system designed to bring them material perfection and ease at the expense of the feeling of being needed. One character describes the situation:

> Sooner or later someone's going to catch the imagination of these people with some new magic. At the bottom of it will be a promise of regaining a feeling of participation, the feeling of being needed on earth—hell, *dignity*. (p. 82)

The novel's hero, Dr. Paul Proteus, composes a letter that affirms Vonnegut's humanistic values in the face of mechanization, automation, computerization, and bureaucratization:

> I propose that men and women be returned to work as controllers of machines, and that the control of people by machines be curtailed. I propose, further, that the effects of changes of technology and organization on life patterns be taken into careful consideration, and that the changes be withheld or introduced on the basis of this consideration. (p. 270)

Vonnegut's response to the possibility of a world dominated by machines reaffirms that human needs are a major concern in applying technology and organizational change, and he underscores the importance of meaningful work in a fully human life. The central social problem in his future is underemployment of the masses: make-work that does not use the skills and creativity of many. Elitism, brought on by the lack of real jobs, has corroded the American ideal of equality. Vonnegut has verified Albert Camus' dictum "Without work all life goes rotten. But when work is soulless, life stifles and dies" (cited in O'Toole et al. 1973, p. 186).

Scenario 2: Bailey and Robison

More recently, John A. Bailey and William H. Robison (1983) suggested a world in which the workers vastly outnumber the available jobs. Because of technology, plenty of income and material goods and services are available for all. In a fascinating analogy, they suggest a rational and humane way that work can be fairly apportioned among the many who would engage in it.

Looking back 100 years, Bailey and Robison see a society in which hunting and fishing are viewed as a free choice and part of one's inalienable rights. No one foresaw that the right to fish and hunt would ever come under Government control or a time when hunting and fishing would no longer be connected to survival.

Similarly, 100 years in the future, work could be licensed by the Government and managed much like a hunting lottery. If there are 200 plumbers but a need for only 50, those drawn by lottery would work each quarter. Salary is not dependent on working but on being qualified by license. Unemployment or benefits in today's sense do not exist. Competition is abolished. Multiple licenses, earned when not working, cushion workers from technological change. Government control, however, is pervasive in setting standards, evaluating competencies, and running the lottery.

Among the advantages of such a system, the authors foresee reduced rivalry among workers, low absenteeism, psychological and economic incentives to increase one's skill repertoire, elimination of underground economy, sharing of power, and reduction of on-site supervision since no routes to advancement need to be provided through layers of supervision. Crimes against persons and property are reduced in this egalitarian economy.

This second view of the future also assumes that somehow—probably through a combination of technological change and population increase—there will be too many workers. Excess of demand and limited supply of work is handled the way we handle a similar situation with respect to hunting some kinds of game, through a lottery. The system is impartial, rewarding those with skills in demand. The scarcer the skill, the more it pays. The system also removes the opprobrium of unemployment. Workers are free to move to an area where work in their specialty is more in demand. Nonworking time may be used to acquire a skill in higher demand. Retirement is spread throughout one's working life, avoiding the isolation and impoverishment of the elderly. There is no unemployment and, presumably, underemployment, low compensation, or below skill utilization are nonexistent. Since practically everyone works less than full time and the salary continues regardless of whether the person works or not, there would seem to be no part-time underemployment.

Assuming that the economy could support such a system, that people would abide by it, and that an underground working economy would not appear, this is an ingenious and creative scenario for the future. Somehow, the negative effects of technology are easier to foresee than the positive. Our experience thus far has been that the application of technology occurs in ways and with effects we cannot foresee. Like Kurt Vonnegut, many in the 1950s assumed that a few giant computers would be built and that centralized control would result. Few foresaw the development of the microchip and the microcomputer, which made the power of a very large computer accessible to almost everyone. Edison, it is said, believed that the phonograph would be used primarily by rich men to dictate their wills. Previous technological advances were generally specific to a given situation and inflexible, but much of the new technology is characterized by universal application and flexibility. Just as the laser, fiber optics, or the microchip (and the million-bit chip is now under development) could not be predicted 60 years ago, what will occur in the next 60 years is likewise difficult to predict.

Humans will probably continue to value work and will be needed for it far into the future. And though our living standard is improving, many social problems will remain: violence, greed, waste of talent, larceny, jealousy, distrust, and deceit. Each advance in technology brings its own set of problems and difficulties. Typical work was for a long time "going to the fields," then briefly, "going to the factory," now it's "going to the office." In 60 years, it may be "going to the vracton" or more likely "staying home and plugging in." There will be work, and very likely unemployment and underemployment. "I went to school for six years to learn to be a graphlonics analyst and look what I'm doing: lousy RTO vectors!" "Yeah, well what about me? I'm in charge of an entire gigaplex and I get about two thirds what they pay a masertech IV over in supraorbital services."

The Near Future

So far, this paper has emphasized that a number of existing dynamics extrapolated into the future would produce more dysfunction in the labor force: unemployment, low wages, and short hours. However, a number of favorable factors are operating and should operate to relieve underemployment. Though noted earlier let us summarize them here:

- Population dynamics will relieve the huge influx of baby boom college graduates into the labor force, thus reducing below skill utilization underemployment.
- The increase of women entering the labor force is leveling off; women have accounted for most of the labor force growth over the past 20 years (Glickman 1982).
- Technology may operate as in the past and open up new markets, new industries, and new jobs, rather than eliminate jobs.
- The American economy has performed splendidly over the past 20 years in creating jobs. From 1970 to 1982, almost 21 million jobs were created, an increase of 26.5 percent, whereas, the 5 major countries of Europe with a similar size labor force in 1970 stagnated, losing 0.02 percent in the same period. All of the U.S. growth has been in smaller companies, with Fortune 500 companies actually losing employment during the past decade (Birch 1983). Such job creation, combined with the previous two trends could lead to a labor shortage in the 1990s.
- Women have made wage parity progress over the last few years if one considers younger women's wages, and more women are entering previously male-dominated occupations. If this increase continues, much of the male-female wage disparity could disappear.

- Small gains in wages of minorities relative to whites may accelerate and that wage gap may also be reduced as a result of changing social conditions.

- Despite some problems, the U.S. economy is surprisingly robust, defying doomsayers who have been predicting economic disaster. The inflation rate is moderate, interest rates are down, unemployment is stable, and even the import-export picture may improve as the dollar realigns itself downward.

All of these factors presage an era of rising real income, lower unemployment, economic stability, and improved conditions for the underemployed populations at risk. On the other hand, several trends may prove troublesome:

- **Declining union membership.** In 1984, union membership was at 19.1 percent (Adams 1985), a loss of 4 percent in 4 years. This loss may increase the risk of part-time underemployment since many organizations hire part-time workers without benefits instead of regular employees, unless prevented from doing so by collective bargaining. In many cases, full-time jobs are downgraded to part-time jobs.

- **Decreases in Government spending.** The way in which Government distributes its funds affects the employment picture, with education expenditures producing the most jobs and military spending producing fewer. It also disproportionately affects the number of high-level jobs available. An increase in private sector spending with an equal decrease in Government spending will result in a net loss of jobs. Not only that, but Government spending produces more high-level jobs and more jobs for women and blacks. Table 14 shows this differential effect. If Federal Government spending decreases—and the pressures are great that it will—the military buildup, the tax cut, high unemployment, and enormous deficits will cause a reduction in high-level jobs and jobs requiring a college

TABLE 14

PERCENTAGE OF JOBS GENERATED BY GOVERNMENT SPENDING, 1980

	Male			Female			
	White	Black	Hispanic	White	Black	Hispanic	Total
All Jobs	31	35	28	36	45	34	34
High-level Jobs	36	46	39	50	68	51	42
College Graduates	44	54	48	59	72	57	50

SOURCE: Adapted from Rumberger 1983a, p. 24.

degree. The groups hardest hit will be women and blacks, especially black women. Of course, some decreases in Federal spending could be offset by increased local spending, but the prospect is generally for less Government spending at all levels. The effect will be to increase below skill-level underemployment as the proportion of high- and college-level jobs are lessened.

- **Trade deficits.** As noted earlier, trade deficits are vexatious to the economy in many ways. Insofar as money leaves the country, it fails to create jobs at home, and with large deficits, the numbers of jobs lost are counted in the millions each year.

- **Immigration.** The United States has been experiencing a large influx of immigrants the past few years, many of these illegal and with low skill levels. This adds to the population at risk of low wage and part-time underemployment (Alexander 1985).

Conclusion

Those who predict the future always seem to fail to foresee something. Malthus could not predict birth control technology, and optimists such as Verne did not predict the effects of an urban, impersonal society on the family or the trivialization of an individual's work contribution in mass production. Nevertheless, short-term predictions can be surprisingly accurate. U.S. Bureau of Labor Statistics' (BLS) forecasts 10 years ago correctly predicted the direction of the trends, though the amounts of change were often inaccurate. The most recent occupational forecasts by BLS for 1995 agree with futurists who used different methodologies, such as Naisbitt and Cetron (Nardone 1984).

The pessimistic scenario leads to a future of mass underemployment, with an inextricable underclass of women and minorities toiling at subsistence wages, and a fierce competition among hordes of college graduates for a few unautomated jobs. It is a world of sharply divided class and race, of a few rich and many impoverished, similar to the condition of many current Third World countries.

Will this happen to us? Or, are we headed for a future of leisure and plenty, with meaningful, good-paying jobs for all? Poverty will virtually be eliminated. Shortages of most workers will give everyone the job most desired. In this world, the rising tide has lifted all boats and equalized their disparity. Creativity and excitement are everywhere.

Utopia is not upon us, nor a tyranny of robots. Despite conflicting forces I am convinced by the following contentions of Birch (1983):

- We are switching from products with long half-lives, for example, cars, 5 years, to products with short half-lives, for example, computer software, 18 months. This consumption increase should energize the economy.

- Increased productivity through automation will enhance our ability to supply quality goods and services in abundance and at reasonable price. This is the formula for economic plenty.

- Products and services not requiring brains and creativity are going elsewhere or will be robotized; those that require brains and creativity are growing in the United States. That implies a diminution of low skill jobs and an increase in the good ones. The strength of

our system lies in our commitment to education. We cannot become overeducated; there are too many problems to solve.

The problems relating to underemployment are essentially those of minorities and the poor. Blacks and Hispanics still face great wage disparities compared to whites. Agricultural workers have made no progress in the past quarter century despite publicity and heroic efforts. The progress of women toward pay equity, though slow and masked, promises eventual parity with legal and *de facto* progress.

Efforts by local governments under JTPA, and especially the creative programs initiated by unions and management in a new partnership, are signs that worker upgrading and placement will become the norm rather than a daring experiment in human resource development. Changes in retirement patterns, second careers, and the growth of small firms are indicators of more work flexibility and creativity, not less.

AFTERWORD

When researching the male-female earnings gap I could not but note that the eminent scholars who argue that there was no discrimination in earnings or that the earnings gap is a result of women's lower commitment, productivity, experience, or skill, are men. I am reminded of the comment by de Jouvencel in 1861 at the height of the controversy concerning the relationship of cranial capacity to intelligence: "I have noticed for a long time that in general those who deny the intellectual importance of the brain's volume, have small heads."* So much for scientific objectivity. Let the reader be warned that this monograph comes from a subjective author with a particular background, culture, and biases.

For some time, I have been compiling and refining a list for an as yet uncompleted article entitled, "The 10 Worst Ideas Ever to Gain Influence in the Social Sciences." The applicable idea here is "some groups of humans are essentially inferior to others." Anyone who explains that the less fortunate circumstances of another group of people stems from their inferiority, from their lack of commitment, intelligence, and productivity, arouses my immediate suspicion. The battle of one group is a battle for all.

My personal conclusion about low-wage underemployment is that it results not from the inferiority of its victims but from a society that still is prejudiced and plagued by institutionalized oppression of certain groups. When those disappear, so will the underemployment.

*Quoted in Gould (1981), p. 112.

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